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Development, Implementation and Evaluation of an Education Course for the Utah State University Coordinated Undergraduate Medical Dietetics Program

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DEVELOPMENT, IMPLEMENTATION AND EVALUATION OF AN EDUCATION COURSE FOR THE UTAH STATE UNIVERSITY COORDINATED UNDERGRADUATE MEDICAL DIETETICS PROGRAM

by

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Cynthia Obermiller

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ABSTRACT

Development, Implementation and Evaluation of an Education Course for the Utah State University Coordinated Undergraduate Medical Dietetics Program

by

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The entry-level clinical dietitian must possess competencies in the area of communications and in the process of education. Training and practice in these areas, as related to the profession of dietetics, must be provided during the professional phase of the dietetic student's training. The purpose of this study was to develop, implement and evaluate a course for the Coordinated Undergraduate Medical Dietetics Program at Utah State University. This course, entitled Education in Clinical Dietetics, was added to the junior year fall quarter curriculum. The ten-week course combined didactic and lab experiences to provide the students with a thorough background in communicating and educating. The course content was primarily derived from the expansion of topics that were previously taught in other CUP courses.

Data from a Needs Assessment Survey of former USU CUP graduates revealed a need for additional training in all aspects of the process of educating at all levels. Specific areas identified as being in need of further emphasis included planning, developing and evaluating

educational materials and programs.

The new course was evaluated at the end of the student's junior year in the USU CUP. Specific recommendations for course revision were made to the USU CUP director and faculty. The recommendations regarding future modification of this component in the USU CUP were based on the past graduates' needs assessment evaluations, the current students' evaluations and faculty evaluation of the students' performance as a result of the additional course.

It was concluded that the inclusion of the new education course into the CUP curriculum combined with added emphasis on the education component throughout the USU CUP could result in the goal of the research to enhance this component and better meet the current needs of dietetic practitioners in the areas under study.

(155 pages)

STATEMENT OF THESIS PROBLEM

Introduction

The importance of the dietitian's role as a nutrition educator is receiving increased attention from within the dietetics profession as well as from the allied health fields. The need for this emphasis is evidenced by the mounting concern of the public over nutrition, particularly as it relates to health and well-being. Of equal concern is the growing number of nutrition pseudo authorities complicating the public's ability to identify reliable nutrition resources. The dietitian, with her/his unique educational background, holds an opportune position to assume a leadership role as a nutrition expert.

The American Dietetic Association (A.D.A. Reports, 1980, p. 491) has defined the dietitian as "a translator of the science of nutrition into the skill of furnishing optimal nourishment to people." In a report to a Senate Subcommittee on Health and Scientific Research, then A.D.A. President Esther A. Winterfeldt delineated the responsibilities of the dietitian as an educator (A.D.A. Reports, 1980, p. 491). The A.D.A. position stated the following:

> As a nutrition educator and as a trainer of others who conduct nutrition education, the dietitian:
>
> (a) Takes leadership in providing nutritional information.
>
> (b) Interprets nutritional facts accurately.
>
> (c) States them in terms that people can understand and apply.
>
> (d) Aims to reduce the time lag between the discovery of nutritional knowledge and its application to food practices.

(e) Recognizes and utilizes human motivation to bring about change in food practices.

Nature and Origin of the Study

Graduates from the Utah State University (USU) Coordinated Undergraduate Dietetics Program (CUP) are clinical nutrition specialists. They have the ability to function successfully in hospitals, metabolic research units, outpatient clinics and community agencies (Self Study Report, 1981). Undoubtedly, nutrition education is an integral component critical to the effective performance in these clinical roles.

Coordinated Undergraduate Dietetics Programs for dietitians were instituted in 1967 with the goal of providing a high quality educational program located in an academic setting which integrates the experiential and academic components. The standards of education for dietetic education programs are set by the Council on Education of the American Dietetic Association. Each program is responsible for meeting these standards. According to this council

> the primary expected outcome of the program is the graduate who is competent to practice in the entry-level professional role in clinical dietetics as identified by the American Dietetic Association. (Council on Education, 1982, p. 6)

In the American Dietetic Association position description for the entry-level clinical dietitian (Baird and Armstrong, 1980, p. 5), general areas of performance are described. While all areas may be directly or indirectly related to nutrition education, three areas are very specific in requiring nutrition education skills. These three areas of performance include:

1. Constructs and coordinates all aspects of nutrition care plan, including identification of short- and long-term goals, delineation of treatment modalities and education plans, establishment of procedures for implementation of the nutrition care plan, ongoing information gathering, and evaluation.

2. Plans, organizes, implements, and evaluates nutrition education for clients/patients; arranges for individual client/patient follow up as needed.

3. Communicates pertinent information to other health care professionals; discusses individual client/patient nutrition care needs with health team members; educates health team on nutrition-related topics. (Baird and Armstrong, 1980, p. 5)

Specific competencies requiring nutrition education training have been extracted from the Role Delineation for entry level Clinical Dietetics and are listed according to the numerical designation in the American Dietetic Association document (Baird and Armstrong, 1980, pp. 25-28 and 33-41).

2.0 Nutrition Care Planning
Constructs and coordinates all aspects of nutrition care plan, including identification of short- and long-term goals, delineation of treatment modalities and education plans, establishment of procedures for implementation of the nutrition care plan, ongoing information gathering and evaluation.

2.1 Identifies desired outcomes/goals of nutrition care for individual clients/patients.
- 2.1.4 Knows principles of effective communication.
- 2.1.9 Communicates with client/patient to obtain data.
- 2.1.20 Consults other team members about plans for clients/patients.

2.5 Develops nutrition care plan for individual clients/patients and documents in the medical record.
- 2.5.7 Knows education principles
- 2.5.15 Schedules nutrition education, including time, place, personnel.

5.0 Nutrition Education and Referral
Plans, organizes, implements, and evaluates nutrition education for clients/patients; arranges for individual follow up as needed.
- 5.1 Recommends nutrition education for clients/patients.
- 5.2 Identifies all appropriate opportunities and settings for learning.
- 5.3 Prepares and/or selects nutrition education materials/exhibits for clients/patients.
- 5.4 Provides technical support for implementing and maintaining nutrition education processes (e.g., maintains files of materials for dissemination).
- 5.5 Counsels individual clients/patients concerning nutrition concepts and desired change in eating habits.
- 5.6 Gives classes and lectures in nutrition to groups of clients/patients.
- 5.7 Evaluates effectiveness of nutrition education events for clients/patients and/or their significant others.
- 5.8 Documents individual client's/patient's response to nutrition education.
- 5.9 Arranges for follow up or terminates nutrition care of individual clients/patients.

7.0 Health Team Functions
Communicates pertinent information to other health care professionals; discusses individual client/patient nutrition care needs with health team members; educates health team on nutrition-related topics.
- 7.1 Contributes the nutrition-related expertise to health team (e.g., physicians, nurses, pharmacists, social workers) discussions of clients'/patients' health status.
- 7.2 Participates in grand rounds.
- 7.3 Meets with health team members to coordinate nutrition care of clients/patients.
- 7.5 Gives classes and lectures on nutrition-related topics for health team members.

One competency found without exception throughout the list of responsibilities of the entry level dietitian is that of knowing principles of effective communication. Thorough examination of the above competencies provides insight into the wide variety of nutrition education skills required of an entry level clinical dietitian.

It becomes clear that the dietitian's communication skills must not be limited to furnishing information. Her/his approach must be creative and consider current theories of human behavioral and motivational dynamics. It is the dietetic education program that must have as a goal the provision of nutrition education training.

In keeping with the philosophy of the Coordinated Undergraduate Dietetics Program, there needs to be an integrated and coordinated approach to educating dietetic students in nutrition education as it applies to dietetics. In the case of nutrition education, this approach is especially appropriate as it allows students to learn, observe and develop these crucial skills early in their training. In the philosophy of the Utah State University Coordinated Undergraduate Dietetics Program (Self Study Report, 1981) it is recognized that

> Since the dietitian's effectiveness is directly proportional to his/her ability to communicate with people, competency in communicative skills is imperative. (Self Study Report, 1981, p. 1)

A review of the Junior year Medical Dietetics curriculum indicates that the nutrition education content is contained primarily in the fall quarter, in NFS 301 - Perspectives in Dietetics and in NFS 448 - Community Nutrition I. The total time devoted to nutrition education-related areas in NFS 301 is approximately one week and deals with dietary interviews, dietary counseling and communications. The course NFS 448 contains a one week unit in nutrition education consisting of two hours lecture and three hours laboratory experience. Topics covered are nutrition education efforts of the food industry,

mass media influences on food habits, the process of nutrition education and cultural differences in food consumption.

A review of the evaluative methods of the Medical Dietetics Program has helped identify the need for increased nutrition education training in the program. At the October 21, 1981 meeting of the Advisory Board, Marietta Romero, Education Specialist for the State of Utah made recommendations regarding the role of the dietitian as nutrition educator. She suggested that dietetics students be adequately prepared in assessing individual and group audience needs, communicating effectively, educational techniques and behavior modification (Self Study Report, 1981). Each Medical Dietetics class is requested to complete a questionnaire post-graduation evaluating the Utah State University Coordinated Undergraduate Dietetics Program. A brief study of the returned questionnaires from the classes of 1978 through 1981 provided additional insight into the need for strengthening the nutrition education content of the program. Presented is a summary of those replies which mentioned a need for further coursework in this area.

Question 12: In what (if any) areas of your position do you perceive yourself as being weak or ill-prepared?

Responses	Number of Students
1. Counseling skills	1
2. Assertiveness	3
3. Motivation techniques	1

Question 13: What course material do you feel needs to be stressed in greater depth?

Responses	Number of Students
1. Assertiveness training	1
2. Adult education (e.g., nursing)	1
3. Counseling	2
4. Motivation techniques	2
5. Teaching larger groups	1
6. Nutrition education techniques	1
7. Teaching general nutrition to public	1

In addition to these responses, several recent (1982) graduates from the program have identified the need for more in depth coverage of the interviewing and counseling process in the NFS 301 course.

A Coordinated Undergraduate Dietetics Program is a highly concentrated, intense program that prepares the student for a career as a Registered Dietitian as well as resulting in a four-year baccalaureate degree. Time constraints and fixed scheduling are a necessary part of such a program and do not allow time for many elective courses that might otherwise be possible in a conventional four year undergraduate nutrition program. These courses, which would be considered supportive of the nutrition education process include Speech/Communications, Principles of Education, Educational Psychology and Instructional Technology/Media. Incorporating selected elements of these subject areas into the nutrition courses of the Medical Dietetics Program seems an efficient method of providing for this need. For the purposes of this research, subject areas in which education training must be provided during the junior year of the CUP include communications, client/patient interactions, nutrition education needs and efforts in the U.S., the teaching learning

process, motivation theory in human behavior, and the planning (interviewing), implementing (counseling) and evaluating components of the nutritional care process.

Statement of the Problem

The credibility of the dietetics profession is derived, to a great extent, from the image conveyed by the dietitian. Along with a sound knowledge base in nutrition science, an integral part of this image is the dietitian's ability to communicate and educate at every level. To assure adequate nutrition education preparation, there is a need for more in depth training in the Utah State University Coordinated Undergraduate Program in Medical Dietetics.

Purpose of the Study

The purpose of this study was to develop, implement and evaluate a nutrition education component for the Junior year of the Medical Dietetics Program at Utah State University. The goal was to expand upon the current nutrition education content in the program. This course was a 3 credit course required for the Medical Dietetics student during the junior year. It was to be taken concurrently with NFS 301 - Perspectives in Dietetics (4 credits), NFS 440 - Nutrition and Metabolism (4 credits) and NFS 448 - Community Nutrition I (3 credits). The course follow the philosophy of the program, that is, it integrated the practice of dietetics within the academic environment to meet the specific needs of the students. The subject matter of the course is designed to prepare the student to fulfill

specific American Dietetic Association competencies for the entry level dietitian. It combines lectures with laboratory experiences in which the students have the opportunity to apply the techniques.

Because this course is taught early in the professional phase of the dietetics students' education, their prior nutrition background is somewhat limited. Hence the students are expected to draw upon previous nutrition courses (e.g., Nutrition for People) as well as their current coursework to obtain topic material for presentations and simulations. A student with a sound background in nutrition education should be able to apply the fundamental techniques to any situation that arises during the educational training and in the clinical setting, modifying her/his strategy according to the complexity and nature of the activity. It is hoped that this course will result in that outcome.

Eliminating the nutrition education component from the courses Perspectives in Dietetics and Community Nutrition should result in benefits to the program. It will allow more time for concentrating on such clinical areas as surgical nutrition, anemias, medical records and nutritional assessment.

Objectives

Objective I

To evaluate the existing coursework in the junior year of the USU CUP, for the inclusion of nutrition education content.

A. Survey all past graduates of the USU CUP to determine their current nutrition education needs and the extent to which their

education prepared them to function in the capacities requiring expertise in education.

B. Identify the entry-level competencies requiring nutrition education expertise mandated by the American Dietetic Association.

C. Have current senior students in the USU CUP evaluate their junior year training in relation to their needs in their senior year Salt Lake City experience.

Objective II

To develop a ten-week (one quarter) Nutrition Education in Clinical Dietetics course for the junior year curriculum of the USU CUP.

A. Integrate currently existing education-related coursework with additional content areas to form a comprehensive course.

B. Develop lesson plans for each unit, based on behavioral objectives, to be coordinated with appropriate learning activities, instructional materials, references and evaluation methods, for classroom use.

C. Develop a sequence of laboratory experiences to be used in conjunction with didactic coursework to provide the experiential component of the course.

Objective III

To implement the ten week course in the USU CUP.

A. Coordinate the proposed course with faculty of the program to make necessary modifications in the junior year curriculum.

B. Provide complete instruction and guidance for students

enrolled in the course, a three credit course, NFS 490, Education in Clinical Dietetics.

Objective IV

To evaluate the effectiveness of the education course in preparing students to function in the professional phase of the CUP, in experiences (assignments, clinicals, projects) requiring knowledge and skill in the education process.

A. Evaluate the course using the Nominal Group Technique with the juniors having completed the course. Conduct this evaluation at the end of Spring quarter, 1983.

B. Provide recommendations to the program director and faculty for curriculum modification of the course for use in teaching the course beginning September, 1983.

Research Design

The nutrition education research study involved three phases. The first phase consisted of an assessment of the needs of the students in the USU CUP based on: (1) American Dietetic Association standards; (2) needs as perceived by present students and past graduates of the program and (3) established CUP curriculum. The second phase involved the development and implementation of the education course in the junior year curriculum of the USU CUP. The final phase consisted of the evaluation of the course with recommendations made to the program faculty as to course revisions needed prior to offering the course again.

Even though a general outline of course content was devised prior to presenting the course, many content areas were contingent on the preceding areas. Hence a majority of the specific course content, behavioral objectives and learning experiences were developed during the actual ten-week course period based on a formative evaluation of the needs of the course. The course syllabus, lists of objectives, learning experiences and references are found in Appendix (A).

Results of the past graduate survey and the course evaluation are summarized in the Results section of the thesis.

Hypothesis

The addition of the course entitled "Education in Clinical Dietetics" will enhance the nutrition education component of the Coordinated Undergraduate Dietetics Program at Utah State University. Those students successfully completing it will be better equipped to perform optimally those entry level competencies requiring nutrition education expertise than those not receiving the training.

Delimitations of the Study

The time period of study was from September, 1982 through June, 1983. Hence the author is limited to that particular span of time in which to observe and evaluate the nine students who completed the course. The end of the study coincides with the completion of their junior year in the dietetics program. The ultimate evaluation of this course, however, would be through these students' performance in the senior year of the program and especially after completion while

practicing as clinicians. The major emphasis in the short-term evaluation will therefore be based upon the following: (1) the students' evaluations of the effectiveness and benefits of the course; (2) the evaluation of the students' performance in the prescribed areas by faculty in the program and (3) the evaluation of the students' performance by persons associated with the program.

Limitations of the Study

Ideally an educational research study should be conducted in two phases. The first phase consists of the assessment of needs and development of the education materials, in this case, a ten week course. Based on a pilot study utilizing these materials the course would then be evaluated and revised accordingly. The second phase would then include a field test of the revised course.

Due to the nature of the study, that is, involving an entire quarter of coursework, a second test of the course is not possible. The study will, however, accomplish the main objective even without the second phase. Upon completion of the study, a determination will be made as to which methods are appropriate for incorporation of the nutrition education component in the USU CUP. The timing of the introduction of this content can also be assessed to maximize its effectiveness.

Definition of Terms

Clinical Dietitian

A clinical dietitian, as defined by the American Dietetic Association, is a specialized professional in dietetics. The clinical dietitian affects the nutrition care of individuals and groups in illness and health. The responsibilities of the clinical dietitian include nutritional assessment; planning, implementing and evaluating nutritional care; serving as a consultant for foodservice to coordinate nutrition care services; and educating and coordinating activities as a member of the health care team (Baird and Armstrong, 1980).

Clinical Experience

This refers to the portion of the dietetics curriculum which is based on actual activities related to the practice of dietetics (Baird and Armstrong, 1980).

Competency

Competency is the minimum knowledge, ability, skill, judgment and values one must possess to function adequately in a specified position (Bell, 1976).

Coordinated Undergraduate Program (CUP)

A coordinated undergraduate program is a baccalaureate program in dietetics which contains a curriculum which coordinates and combines the didactic and clinical experiences. This program is located within an accredited college or university and is accredited by The American

Dietetic Association. The Utah State University Coordinated Undergraduate Medical Dietetics Program will be referred to as the USU CUP.

Nutrition Education

Nutrition education involves a process that includes more than the dissemination of nutrition information. It is a process of education which has as a goal the alteration of nutrition behavior to achieve more optimal present and future health.

The nutrition education process necessitates expertise in the following: nutritional needs in relation to existing habits, the subject of nutrition science; knowledge of behavior change, human needs and motivation; and cultural and environmental factors (Caliendo, 1981).

REVIEW OF THE LITERATURE

The specific competencies required of the dietitian in order to function effectively as a nutrition educator have been very clearly delineated by the American Dietetic Association, as cited in Chapter I. The preparation needed to function in the educator role is by no means limited to training in the education process, i.e. teaching methods. Ideally it includes numerous disciplines which become specially tailored to the unique role of the dietitian, that is, of altering behavior of individuals and groups. The term nutrition educator is considered in a broad sense.

The areas of expertise required of the dietitian to function effectively as an educator include communications, problem-solving, human relations, behavioral counseling, motivational theory, speech, and planning, implementing and evaluating educational activities and materials.

The methods utilized to prepare the dietitian to function as a nutrition educator will vary depending upon the particular dietetic program he/she completed. Literature which reviews the provision of this training in various dietetics programs is limited. This is particularly true with respect to focusing on this entire component within a program. Current research concentrates on the training available in very specific areas, i.e. communication through dietetic counseling.

This review will address the following: the needs of practitioners in terms of nutrition education, the provision of nutrition education training within a competency-based Coordinated

Undergraduate Program and specific skill areas to be taught in the dietetic program.

Educational Needs of Dietetic Practitioners

Over the past ten years the American Dietetic Association has placed great emphasis on the dietitian's need to integrate nutrition science knowledge with knowledge of educational approaches for successful practice in the profession. Past A.D.A. president Esther Wintefeldt (A.D.A. Reports, 1980) discussed the role of the dietitian in educating consumers. She maintains that since the public obtains much information from media, a nutrition educator must be able to utilize the numerous media forms such as radio, television and books. Also stressed is the need for the dietitian to present the nutritional information in easily understood language appropriate to the audience which, in this case, is the consumer. The dietitian, through her knowledge of modified dietary needs, can also provide information that is reliable and easily interpreted.

Most research related to dietetic education is concerned with the professional academic preparation rather than educational needs of practitioners. The related research concerned with educational needs rarely deals with needs in the areas of behavioral sciences, communications and education theory.

Vanderveen and Hubbard (1979) studied the continuing education needs of dietetic practitioners. The authors conducted a survey among 232 registered dietitians randomly selected from the Ohio Dietetic Association. The purpose of the research was to determine the areas

in which practicing dietitians perceive a need for further education. With this information, appropriate continuing education programs could be developed. The participants ranked subject matter items in three general areas including managerial sciences, nutritional care sciences and behavioral, communicative and socio-cultural sciences. There were 109 total topics rated on a 4-point scale according to the level of need for additional training in that area.

The results were interpreted such that if fifty percent or more of the respondents ranked a topic as moderate-need or high-need level, the topic would be considered for inclusion into the continuing education activities. In general the results indicated a greater need for education in the professional knowledge areas of management and nutritional care than for behavioral, communicative and socio-cultural sciences. The authors interpret this finding to indicate that dietitians have a greater interest in being updated in the technological advances of the profession than in societal changes which may effect the delivery of nutritional care. Only four of the 109 total topics were not selected as high-need or moderate-need areas by at least fifty percent of the respondents.

Within the area of behavioral, communicative and socio-cultural sciences, the topics were grouped into four categories including those related to the teaching-learning process, communication skills, social and economic factors and general community interest. Of these, topics in the teaching-learning process and communication skills received a higher percentage of high/moderate-need responses. Over 70 percent of the respondents rated effective interviewing and counseling and

teaching methods and devices as high/moderate need areas. Table 1 contains other areas ranked as high/moderate need areas by between 52 and 68 percent of the respondents (Vanderveen and Hubbard, 1979).

Table 1. Learning topics ranked as high/moderate need by between 52 and 68 percent of the respondents.

Category	Learning Topic	Percent
TL	effective interviewing and counseling	72
TL	teaching methods and devices	71
TL	educational program planning, implementation, evaluation	68
C	assertiveness training	66
TL	learning through group participation	65
TL	utilizing team approach in health care and education	65
TL	adult education concepts and principles	64
C	speaking before live audiences	59
C	non-verbal communication	58
TL	use of mass media in education	57
TL	theories and conditions of learning	55
C	effective participation on television and radio	52

TL = teaching-learning process
C = communications

Curriculum Evaluation of Coordinated Undergraduate Programs in Dietetics

The profession of dietetics is constantly changing to keep pace with current health care needs. Dietetic education programs should then be modified as needed to reflect the current needs of practitioners (Parks and Kris-Etherton, 1982). The most reliable way of insuring that a program is providing for current practitioner needs is through an on-going evaluation of the educational program.

One method of curriculum evaluation, the Nominal Group Technique (NGT), was tested in the Louisiana Tech University Coordinated Undergraduate Program in Dietetics (Rhoades et al., 1981). This is a technique that was formulated in 1968 and consists of three phases. First, the "nominal phase" involves each individual privately listing ideas. In the "discussion phase" each idea is clarified by the person presenting it and finally the "voting phase" involves individual private grading of the listed items. Research has generally proven the nominal group technique better than using group interaction for generating suggestions because it minimizes the possibility for individual inhibitions. At Louisiana Tech University the evaluation sessions were attended by 45 clinical practitioners, faculty members, program graduates and current students. The participants' objectives were to identify current problems in the CUP curriculum, with an emphasis on the entry-level competencies in need of additional attention and new competencies to be added. The evaluation process resulted in the generation of 150 ideas to be used in program modification and ranked and weighed problem statements. It also

allowed for input from individuals involved in all aspects of the CUP. A very favorable response was received from participants.

Coordinated Education in Dietetics

The Coordinated Undergraduate Program (CUP) in Dietetics, instituted in 1967, integrates the academic and experiential components into a total learning program located within an academic setting (Council on Education, 1982). Prior to the development of the CUP, the route available for most students to become a professional dietitian was through the completion of a baccalaureate degree plus a dietetic internship. By 1976 a total of fifty-seven accredited undergraduate educational programs in dietetics existed.

There is a distinct difference between the integration of two components of an educational program and the coordination of those components. The transfer of the clinical phase of the dietitian's education from post undergraduate study, as in the traditional internship, to its placement in the undergraduate years represents integration of the academic and the clinical phases under the same administration. Coordination, however, requires the interrelation between the didactic and clinical phases. Didactic refers to the academic coursework. Clinical experience is defined by the ADA as

> the component of a dietetic curriculum that provides supervised learning opportunities with identified learning outcomes in selected real life situations. The experiences enable the student to apply knowledge, develop and refine skills, and develop professionally. (Council on Education, 1982, p. 37)

Lewis and Beaudette (1977) describe coordinated education as being a different approach to learning than traditional programs. Didactic and clinical studies occur concurrently and may be interrelated in many ways. The concept of interrelationship can be exemplified in the skill of interviewing. Interviewing methods are initially studied in the classroom and in textbooks. Very shortly thereafter, the student applies the content to a real situation in which he interviews patients or other students. The experience can then be discussed, evaluated and compared with other students. Making comparisons between the hypothetical and real life situations is so important to the student's ability to learn to improve her/his methods. Entry-level dietitians cannot be expected to perform skills unless they had the opportunity for skill development in each area. The types of skills expected of a dietitian must be acquired in the real world. Knowledge can be acquired in the classroom setting; whereas skills are acquired in the milieu of the profession where one sees a multitude of possible situations from which to gather experience. A review of the four phases in the development of coordinated education in dietetics provides insight into ways a program can achieve to maximize development of skill in professional performance. Phase I, clinical integration, involves coordination of didactic coursework with the related clinical study so they occur concurrently. Phase II, subject interrelation, provides for the interrelationship of content of two or more courses. In this case, instructors from two classes may work together to plan the achievement of objectives through educational planning. For example, interviewing

skills may be applied in direct patient care, in the community setting and in the food service area. Phase III, transdisciplinary coordination, entails the coordination of the didactic and clinical phases of several different disciplines. This type of coordination requires thorough planning and commitment because of the various faculty and facilities which may be involved.

The last phase, evaluation and revision, is the ongoing process of evaluation in the coordinated dietetics program. This includes staff meetings and student evaluations which assess each phase of the program.

Competency-based Education

The end result of a dietetic education program is that of attaining professional competency. This goal has led to the creation of competency based education (Ingalsbe and Spears, 1979). Bell (1976) defined competency as

> ....the minimum knowledge, skills, affective behavior, and/or judgment which an individual is certified to possess on a set of criteria and level of expectation. (Bell, 1976, p. 133)

According to Bell: (1976, p. 133) "Competency-based education refers to behavior that requires a selective and creative blending of the three learning domains - cognitive (intellectual), affective (feelings), and psychomotor (motor skills) and encompasses a total program."

The four basic elements of all competency-based education are the statement of behavior, subject matter, learning opportunities and

evaluation. Competencies, which are broad in scope, are subdivided into behavioral objectives. Successful completion of the behavioral objectives will lead to the acquisition of a competency. In order to further define the objectives applicable to a single competency statement, behavioral objectives are broken into terminal performance and enabling objectives (Bell, 1976).

Enabling objectives can be the learning experiences which will help the learner achieve the terminal performance objective. The enabling objectives are at the lowest level of learning, the terminal performance objective higher and the competency represents the highest learning level. It is critical in competency-based education that the learning objectives are known to both instructor and learner. Each learning objective specifies a desired behavioral outcome. The learner in turn must be given adequate learning opportunities in which to practice the given behavior. Two important points need to be considered. First, the objective content must be signficant and valid as determined by experts. Also the practice opportunity must give the learner the chance to use the exact content implied in the objective (Bell, 1976).

Competency relates to the total practice of dietetics and goes beyond just the possession of knowledge. Therefore, evaluation techniques measuring learning in the cognitive domain are not accurate and relaible indicators of the attainment of professional competency. Ingalsbe and Spears (1979, p. 134) state that "competency is best judged by observation of a person's behavior when confronted with situations requiring the exercise of the essential skills and judgment

of a professional." Evaluation feedback is an important determinant of the success of a learning opportunity in providing appropriate situations in which the student actually practices the content of the objective. Bell concludes that the major strength of competency-based education is its emphasis on the total program.

Dietetic Counseling

The majority of the clinical dietitian's time devoted to teaching is in the counseling of clients/patients. A Committee of the Diet Therapy Section of the American Dietetic Association defines diet counseling as

> ... providing individualized professional guidance to assist a person in adjusting his daily food consumption to meet his health needs. (Joint Committee, A.D.A. as cited in Diet Therapy Section, 1975, p. 571)

There is evidence that even when counseling is conducted by trained professionals, the success in achieving desired behavior changes is very limited in many cases. It has been estimated that medical recommendations are not complied with in one-third of all patients and another third only adhere to part of the prescribed recommendations (Podell as cited in Glanz, 1979a). Dietary compliance is thought to be poorer than compliance with medication regimens (Sackett and Haynes as cited in Glanz, 1979a). The increasing need for highly qualified diet counselors is indicated by the increase in the use of modified diets in the control of chronic conditions as well as the increasing prevalence of dietary non-compliance (Glanz, 1979a).

The way in which the dietitian communicates instructions and his/her understanding of the psychological factors in the teaching-learning process will have a great effect on whether the patient implements the dietary modifications. One study (Page et al., 1981) measured diabetic patient recall of recommendations made by professionals immediately following instruction. The instruction given these diabetics was aimed toward achieving behavior change that would improve control of their disease. The results showed that patients have a limited capacity to remember recommendations made by professionals. Recommendations were made in many of the important aspects of diabetes care. Of the various recommendations, the dietary recommendations were most frequently recalled by patients perhaps because these are very relevant. Among the total recommendations given in all areas, patients recalled an average of two out of seven items. The authors concluded that effective patient education requires an understanding of the communcation process and must include a preassessment and postassessment of patient understanding of presented material.

In the past, the responsibility for non-compliance to a dietary regimen has been placed primarily on the patient. It is currently thought by some that, to a great extent, non-compliance is due to the dietitian's counseling techniques and that these techniques can be changed to afford greater patient adherance (Glanz, 1979b).

One of the most challenging jobs facing the dietitian today is that of improving the dietary habits of individuals. Several studies emphasize the importance of utilizing behavioral techniques in the

process of nutritional counseling. One such report (Mahoney and Caggiula, 1978) addresses the issue of how to change eating behavior patterns. The authors assert that the counseling process is complex and involves not only education but also persuasion.

They maintain that merely furnishing information or informing the public does not necessarily result in altered eating patterns. The dietitian's job of educating the client/patient does not stop at telling the client/patient what to do; but must deal with how she/he can accomplish the goal, including motivational techniques.

There is an increasing number of workshops and training efforts undertaken to provide dietetic students and dietitians with skills in behavioral counseling skills.

Methods of Training Students in Dietetic Counseling

The task of changing another individual's behavior requires skills in the areas of communication, problem-solving and human relations. These must be combined with effective management and teaching and counseling techniques to help achieve the desired change (Dow, 1981). Acquisition of the skills to perform this process requires considerable training and practice. One method used frequently in training dietetic students in counseling is through the use of simulated case situations.

Typically simulations in nutrition counseling include case studies and role playing. Dow (1981) has proposed guidelines in developing meaningful simulation experiences for dietetic students. The simulation essentially presents a problem to be resolved by the

student. To reach the conclusion, the simulation should be designed with a built in series of decision points. The simulations should be developed to meet specific curriculum goals or objectives. Simulations can provide valuable learning experiences if planned, tested and refined adequately. The design can include forced choices or options for the student, some appropriate and some not. Supplementary resources such as simulated medical records, diet manuals or medical textbooks may be used to allow for a more realistic situation and encourage the use of available resources in solving problems. The use of simulations in training dietetic students in a coordinated undergraduate program seems particularly well suited. It is recommended that simulations be used in conjunction with lectures, discussions and debriefing for maximum effectiveness. It has been demonstrated that when students participate in simulations in an integrated program they achieve higher scores in analysis, synthesis and evaluation than those trained in simulations alone (Walling as cited in Dow, 1981). Simulations have the advantage of allowing students to learn from each other, they require training time and effectively utilize the instructor's time.

Simulation exercises have also been used in dietetic education programs to teach listening skills. The School of Allied Health Professions at the University of Connecticut has developed modules which are used in the counseling sequence of the program to stress listening skills (Adams and Fitz, 1979). A progression of interviewing learning experiences is presented which locially leads the students from simple listening to the more complex task of interviewing ill

patients. The authors assert that a major problem in teaching dietetic interviewing is bridging the gap between these situations. After completion of interviewing each other in a "healthy" setting, the students participate in a simulation called "the coached client." In this case a student is asked to play out an assigned role depicting a specific clinical problem. It is hoped that this training exposes students to some situations similar to what might be encountered in a hospital setting. This training time has also been used to emphasize empathy in the development of dietitian/client rapport. The instructor in this method of teaching interviewing skills is able to present various content areas by developing her/his own simulation exercises. It can also be used to provide the student with opportunities to practice dealing with personal (touchy) problems e.g., weight, bowel habits, prior to entering a clinical setting in which the patient is ill and probably frightened.

The use of patient simulators to teach clinical interviewing skills is also described by Sutnick and Carroll (1981). They employed the use of trained simulators to conduct the training sessions in an interdisciplinary course in applied nutrition with students from many health professions including medicine, social work and physical therapy. The trained simulators have background in evaluating students' interviewing skills. The students were told what type of information was to be obtained from the patient simulator. Case histories were written and each student interviewed one patient simulator while being videotaped. Two evaluation tools were used by the simulators. One tool rated the interview skills and the other was

a checklist for clinical content. Although no dietetic students participated in these particular simulations, the possibilities for application to dietetic education are numerous. It is suggested that simulation could be used early in a program to teach interviewing skills. The interview process as well as the content can be evaluated by the use of checklists to provide the student with immediate feedback on strengths and weaknesses. Another valuable method of evaluation is through the use of audiotape or videotape. Requiring students to formulate nutritional care plans for the simulated patients is yet another approach. An advantage of using a trained simulator is that he/she is unknown to the student, which presents a sense of reality not possible in the average classroom setting. The simulator is also very competent in giving immediate feedback to the student. Research has shown that the use of trained patient simulators has resulted in improved scores by medical students in interviewing process and content. The simulators' evaluations of interviewing skills has also been found consistent with those of medical faculty.

In order to perform successfully in the area of counseling it is widely believed that the dietitian must develop helping relationships with patients (Mason et al., 1982). Danish (1975) compares dietetic counseling with "mental health" counseling and emphasizes that the skills needed to counsel are not inborn; but must be taught. Counseling involves a two-part process. The first is in the development of a trusting relationship. The second is an action-oriented phase in which the counselor instructs the client in

the prescribed nutritional regimen. The author maintains that in traditional dietetic training programs, the emphasis has been on the action-oriented phase.

This is not due to a lack of understanding of the importance of the rapport building aspects of counseling. The need in this area is to help dietetic students develop specific skills leading to the characteristics of empathy, genuineness and an unconditional positive regard for the client. The absence of these relationship building attributes may make the difference in whether or not the counselor succeeds. One method used to provide training on all aspects of counseling to various health disciplines is systematic training. One such training program divided the relationship-building skills into six stages as follows: understanding your needs to be a helper, using effective non-verbal behavior, using effective verbal behavior, using effective self-involving behavior, understanding others' communication and establishing effective helping relationships. The usual educational principles are employed in the teaching of these skills and include behavioral objectives, application of skills, active student participation, modeling and the use of immediate feedback for evaluation. The time required to teach these skills is estimated to be 25 hours. Implementation of a program usually involves one two and one-half hour sessions per week. An appropriate teacher-student ratio is one trainer per twelve to fifteen students. The use of this method in providing this one aspect of training in a dietetic program has not been researched. However, those dietetic counselors completing a program such as that described demonstrate acquisition of the skills

through the use of appropriate responses in the counseling setting. Danish concludes that the inclusion of relationship building skill training in dietetic counseling training would improve the provision of the services to patients/clients.

LaQuatra and Danish (1981) conducted a study in which dietetic students received training in the use of interpersonal communication (relationship-building or helping skills). The pilot study indicated that, although dietitians were trained in helping skills, their use of these skills was not transferred into the actual counseling. This has been the case in other studies of counseling skills. Reasons for the failure to transfer these skills included differences between training and non-training settings, lack of reinforcement in the non-training setting, inadequate practice and a failure to internalize the skills. The authors thus developed a program to facilitate the transfer of helping skills by dealing with the barriers just mentioned.

Participants in the study included 26 undergraduate students in nutrition and nursing programs in their junior year at Pennsylvania State University. All were enrolled in an applied experience course in counseling, "Introduction to Nutrition Counseling." The participants were non-randomly assigned to two groups. The experimental group included those students (17) who had previously completed a course entitled "Helping Relationships." The control group had not taken that or a similar course. This was the only difference between the two groups with respect to curriculum. Students in the experimental group were given a program which reviewed the skills learned in the "helping skills" course. This was intended

to enhance the transfer of the skills to the counseling situation. The control group received a review of dietary concepts in obesity, diabetes mellitus and hyperlipoproteinemia. The need to develop rapport with the client was stressed, however specific helping skills were not identified. The instructors for the experimental group used techniques which included presenting rationale for helping skills use, providing immediate feedback and modeling. As the students began counseling with supervision, the instructor provided reinforcement for the use of helping skills. The use of continuing responses was one helping skill emphasized. A continuing response is a

> ....statement which summarizes or reflects the content or feeling presented by the helpee. (LaQuatra and Danish, 1981, p. 24)

The training for the control group also included the instructor modeling counseling sessions with clients but there was no emphasis on specific counseling skills. In practice, the students were not reinforced for their use of helping responses as they counseled. The students were only instructed not to use close-ended questions. Evaluation of the training was made by pretest and posttest in which the participants' counseling sessions were audiotaped and analyzed for frequency of helping skills responses. Students in the control group not only used significantly more close-ended questions than the experimental group but also used more at posttest than pre-test. This increased use, despite instruction to avoid close ended questions, was possibly due to the lack of instruction on alternative appropriate responses. The use of continuing responses, especially affective

responses, was greater in the experimental group. Use of affective responses is more difficult in beginning counselors because it involves concentration on the client's unstated feelings. Continuing responses in general allow for more self-exploration on the part of the client. Through participation in the transfer program, the students in the experimental group were able to internalize the rationale for using helping skills and carried these into a nutrition counseling environment.

The process of counseling is one major role of the dietitian. The areas of expertise needed include knowledge of clients, the dietitian-client interaction, teaching and learning processes and evaluation. Although many dietitians may obtain counseling skills through experience, the preferred training method is through the use of structured teaching which has been shown to be more effective (LaQuatra and Danish, 1981).

METHODOLOGY

Restatement of Objectives

The purpose of the study was to develop, implement and evaluate a nutrition education course for the junior year of the Coordinated Undergraduate Dietetics Program at Utah State University (USU CUP). The course was formulated based on needs identified by past graduates, American Dietetic Association (ADA) guidelines and an evaluation of the existing program curriculum. The new course was developed following the philosophy of the CUP.

The goal of the course was to provide dietetics students with in-depth training in nutrition education as it relates to clinical dietetics. Even though a major part of the research was the development of a new course, the study was largely evaluative resulting in defined recommendations as to the needs of the dietetic student in his/her junior year in the area of education. Based upon these recommendations the education course can be revised for future inclusion into the USU CUP.

Research Approach

This study is a modified educational research and development program. In educational research and development, the result is a finished product that can be incorporated effectively into an educational program. As stated in the limitations of the study, this research will not reach this end. It will remain in the planning phase; as the course has been taught only once. Formative evaluation

has been carried out throughout the entire study period. Major evaluation techniques included a needs assessment survey, ongoing evaluation as the course was being conducted and further formative evaluation at the end of the study period. Essentially all evaluation that has been included in the study is considered formative evaluation. Utilizing the developed course, related materials and the evaluations, a clinical instructor in the USU CUP will be able to implement a revised course in September, 1983.

Research Design

Appropriate instructional units were developed based upon competencies stated by the American Dietetic Association. For each instructional unit, behavioral objectives were formulated. Lectures and laboratory experiences were developed based on objectives. The laboratory experiences were designed to coordinate with the didactic coursework and included clinical assignments such as interview simulations and role playing and numerous presentations which the students gave to the class. Methods to evaluate students' achievement of objectives were also devised.

Since a main goal of the course was to prepare students for the professional phase of the CUP, all students were observed after completion of the course during winter and spring quarters. Upon completion of spring quarter, the students evaluated the course using the Nominal Group Technique. Very specific recommendations were made to the program director and faculty.

Description of the Course and Its Development

The course, Education in Clinical Dietetics, was an all encompassing course designed to give junior Medical Dietetics students a thorough background in education, particularly as it applies to their functions as dietetic students in the clinical setting throughout the junior and senior years. This two year period of undergraduate study for a student in the CUP is considered the professional phase of the program. This professional phase focuses on the student's attainment of specific competencies in clinical nutrition which are required of an entry level registered dietitian. It is during the fall quarter of the junior year that students begin working in the actual clinical setting. This includes hospital and community contacts with clients/patients who are in need of nutritional assessment and consultation.

The sequence of the inclusion of topics in the course was planned with consideration given to the prerequisite knowledge needed for comprehending subjects, the past course experiences of the students and the time during the professional phase when the students will apply the information.

The experimental course consisted of four learning modules (Appendix A) each of which included appropriate units as follows:

Module I - Nutrition Education

Unit 1: The Dietitian as an Educator

Unit 2: Introduction to Nutrition Education

Unit 3: Nutrition Education: Public Concerns

Module II - Health Professional/Patient Interaction

Unit 1: Effective Communications

Unit 2: The "Therapeutic Healping Relationship"

Module III - Teaching Skills and Methods

Module IV - The Nutritional Care Process

Unit 1: The Interview

Unit 2: Planning

Unit 3: Implementation (Nutrition Counseling)

Unit 4: Evaluation

In the development of the experimental course, it was necessary to extract the education-related subjects from the existing curriculum of the fall quarter of the junior year of the USU CUP.' the two existing courses which contained this content were NFS 301 - Perspectives of Dietetics and NFS 448 - Community Nutrition.

Community Nutrition (NFS 448) contained a one week unit, Nutrition Education (Appendix B) in which the students were introduced to the process of nutrition education, influences of the media, and cultural differences in food consumption. These topics, with the exception of cultural food influences, were incorporated into and formed the introductory module for the new course. It was decided by the author and by the Community Nutrition instructor that cultural foods was more in the realm of community nutrition than nutrition education.

Nutrition education was chosen as an introductory unit so the students would begin viewing the dietitian as an educator and to

familiarize them with the numerous ways in which a dietitian functions as an educator in a clinical as well as public setting.

Another concern in course development was to include education-related content previously covered in NFS 301, Perspectives of Dietetics. This was a major unit, Module IV in Perspectives of Dietetics, entitled Nutritional Care-Planning, Implementing and Evaluation (Appendix C). These aspects of the nutritional care process represent the final three steps in the process. Nutritional assessment preceeds nutritional care planning and remained in NFS 301, as it relates more to the scientific nature of the process rather than to the education/communication techniques employed in nutritional care. The three elements, planning, implementing and evaluating were all expanded and formed approximately fifty percent of the new experimental course. It is essential that dietetic students receive training in these aspects of the nutritional care process prior to participating in the clinical experiences at Logan Regional Hospital at the end of fall quarter. It is also necessary that this training be provided after the students have had sufficient background in the clinical assessment of the patient, week five of NFS 301. This was the reason for incorporation of these aspects into the fifth, sixth and seventh weeks of the new course.

Other areas which very closely relate to the nutritional care process include general communications skills and more specifically the interaction between dietitian and patient. Possessing effective skills in these areas facilitates proficiency in the clinical area. In the ADA position paper for the entry level dietitian, "knowing

principles of effective communication" is an objective stated throughout the document. Students require no prerequisite knowledge or experiences prior to being educated in these areas; therefore the units on communications and dietitian/patient interactions were taught early in the quarter. Laboratory experiences were coordinated with these units. The sequencing of lab exercises was designed to progress from very common communications problems to the more complex situations, i.e. patients who are reluctant to volunteer dietary information.

Another major emphasis early in the quarter was dietetic interviewing, the most basic of the dietitian/patient encounters. As with communications skills, training in interviewing techniques requires considerable practice in the form of simulations and role playing in the lab setting. The dietetic interviewing unit does require some prerequisite knowledge on the part of the student. Therefore, this unit was coordinated with NFS 301 (Perspectives of Dietetics) to assure that students had adequate knowledge of dietary habits, food portions and methods of evaluating for dietary adequacy, i.e. Recommended Dietary Allowances.

The remainder of the course was devoted to the process of education. This unit was intended to prepare the dietetic students for their role in teaching groups and giving presentations which will occur primarily after graduation. The clinical dietitian may be expected to present to or teach audiences with virtually any socioeconomic or educational status, ranging from very poorly educated low income children and adults to professional members of the health

care team such as physicians and other dietitians. Responses of past USU CUP graduates in the needs assessment survey provided additional information as to the needs of dietitians in educating groups. The students are also expected to give several formal presentations to a variety of audiences during their junior and senior years.

In examining the objectives involved in the three phases of the nutritional care process previously discussed (planning, implementing and evaluating) it was determined that a great deal of similarity exists between them and the objectives related to implementing an educational plan for a group. For example, a student must devise behavioral objectives in the nutrition care planning for an individual patient as well as in a more strict education setting such as a basic nutrition lecture for a prenatal class. Methods proven effective in instructing a patient in a modified dietary regimen may also be employed in a group situation. The process used in evaluating a patient's success in achieving behavioral change can also be modified and applied to the evaluation of learner success in other instances. There was some overlap in the discussion of several of the aforementioned areas. For example, when behavioral objectives were studied, examples were used to consider the ways to utilize objective writing for individual clients/patients and for groups.

In addition to planning and evaluating educational activities, each student was assigned three oral presentations. These included an oral review of a nutrition-education related article, a demonstration and a final presentation. Specific assignment specifications are found in Appendix (D). The article for review was

chosen by the student from recent issues of the Journal of Nutrition Education. This assignment was intended to familiarize students with the journal and a variety of approaches to nutrition education and to begin identifying individual strengths and weaknesses in communicating before a group. The demonstration assignment approached education from the standpoint of visually communicating a procedure such as filling out a diet record for a behavioral program in weight control. The final presentation assignment encompassed all elements of educational planning, implementing and evaluating. Each student chose a nutrition-related topic, adapted it to two different audiences and conducted two ten to fifteen minute lessons using behavioral learner objectives and appropriate teaching skills and evaluation methods. This final assignment was a culminating experience for the course. The students were required to utilize a wide range of skills developed during the course.

A unit on public education displays was included in which the students planned a display for the general public to be set up in mall setting. The rationale for this unit included the increased participation of dietitians and dietetic students in National Nutrition Month. This is the month of March each year designated by the American Dietetic Association as a time to emphasize nutrition education efforts. The display plans developed by the students in the experimental course were modified during winter quarter and produced spring quarter for two local health fairs. This enabled the students to participate in an entire project. They were involved with the initial planning and development of objectives, the selection and

purchase of materials, the development of coordinated handout materials, the set-up of the display and active participation in manning the display and interacting with the people attending the health fairs.

In addition to the coordination of the experimental course with NFS 301 and NFS 448, the development of the course included planning laboratory experiences in which the students had the opportunity to apply principles learned throughout the quarter. Textbooks and journals were referred to in writing lab exercises. The lab experiences consisted of verbal/non-verbal communication exercises, interview simulations and role playing, videocassettes and related discussions and sessions for practicing teaching skills and methods.

In the planning phase of the development of any educational product, behavioral objectives may be loosely stated because of insufficient knowledge of expected learning outcomes (Borg and Gall, 1979). This was true of objective development for the new course. Many objectives were written in close proximity to the actual instruction of the respective content.

A competency statement was written for each of the four learning modules. The specific objectives needed for the achievement of a given competency are elaborated in the form of terminal performance objectives (TPO's) and enabling objectives (EO's).

Along with the required textbooks, the students were assigned outside related readings from texts and professional journals. The resources consulted for lecture and lab content were necessarily

numerous because of the diversity of subject matter presented in the course.

Evaluation of students in the course was based on the following:

Criteria	Points
Mid Term Exam	100
Final Exam	150
Lab Participation	50
Interview Self Evaluation	25
Education Display	25
Article Review	25
Demonstration	25
Final Presentation	100
Total Points	500

The final grade was derived fifty percent from the written exams which tested acquisition of objectives and fifty percent from the lab or clinical assignments. Performance on written examinations was compared with specific behavioral objectives. There were no pre-existing evaluative tools for assessing performance in the clinical area. The process of evaluating the presentations, displays, and interviews provided valuable information as to the expected behavior outcome of Medical Dietetics students in these situations. A preliminary evaluation form to be used in student presentations was developed after completion of the course and will be discussed in Description of the Instrumentation.

Description of the Subjects

The subjects of the study were the nine students enrolled in the Education in Clinical Dietetics course. This group of students represented the entire junior class of the USU CUP at the time the course was offered. Although nine students completed the experimental course, only eight remained in the Coordinated Undergraduate Program after fall quarter, 1982. Because of the structure of the CUP, all students had very similar academic background and had essentially the same undergraduate courses prior to taking the course under study. Other information regarding the subjects is not significant to this research as no comparisons were made and the subjects were not selected.

Description of the Procedures

Prior to the implementation of the course in September, 1982, several preliminary steps were taken. During the summer preceding the course, plans were made to incorporate the course into the junior year curriculum. An outline containing the general topics and rationale for their inclusion was presented to the USU CUP director and to a clinical instructor in the program. The course was designated as three credits, NFS 490. The nine Medical Dietetics students were informed of the additional required course and were instructed to enroll in three credits of NFS 490, Special Problems. Meetings were held with CUP faculty to coordinate curriculum for the juniors. Decisions were made at this time regarding revisions needed in other courses as a result of the addition of the education course.

Arrangements were made for classroom space and lecture and lab meeting times.

On September 9, 1982, three weeks before fall quarter began, a pilot education needs assessment survey was sent to fifteen past graduates of the USU CUP.

The new education course began on September 30, 1982 and met for ten weeks thereafter for two and one half hours of lecture and one and one half hours of lab per week. The class times were Monday - 10:30 am - 12:20 pm, Wednesday - 10:30 am - 11:20 am and Friday - 10:30 am - 11:20 am. The author was the instructor for all lectures and labs. All lectures and lab sessions were held in a classroom in the Nutrition and Food Sciences Building at USU. The author was available for office consultation for three hours per week.

Whenever possible students were given copies of the unit objectives and assignments at the beginning of each unit of study. The course met for ten consecutive weeks and the final exam was given on December 8, 1982.

In Feberuary, 1983 the needs assessment survey was revised and was sent to all past graduates of the USU CUP on March 24, 1983.

After completion of the course, further evaluation of the success of the course in meeting the objectives was possible, as the author instructed the remaining eight students in the Clinical Nutrition 455 and 456 sequence and the clinical experiences at local health care facilities during winter and spring quarters.

An evaluation of the course, Education in Clinical Dietetics, was made by the juniors upon completion of the spring quarter, 1983. This evaluation was conducted using the Nominal Group Technique.

The senior class of the CUP also participated in overall evaluation of the training in nutrition education provided by the program. The author conducted a discussion period with seniors on May 6, 1983 to obtain suggestions.

At the end of Spring quarter, 1983 and upon completion of the junior year for the subjects in the study, the Education in Clinical Dietetics course was evaluated by the eight students. Each student was asked to individually think of and write down three suggestions for improvement of the experimental course. Upon completion of this, each student was asked to verbalize one idea rotating through the group until all suggestions had been recorded. A total of sixteen different suggestions were received. Each student was then asked to clarify her suggestions. At this time other students asked questions if further explanation was needed. A list of the sixteen suggestions was given to each student at which time they were asked to individually rank the ten items they considered most important in order of priority, one through ten.

Description of Instrumentation

Two instruments were developed and utilized in the research study. These were an Education Needs Asessment Survey and a Student Presentation Evaluation Form. The Education Needs Assessment Survey was designed to collect information from past USU CUP graduates. The

Student Presentation Evaluation Form was developed to meet a need identified during instruction of the new course.

Education Needs Assessment Survey

This survey was formulated as an evaluative tool in determining the aspects of the USU program that need strengthening. The objectives of the survey were to determine: (1) the extent to which the USU CUP provided training which has enabled practicing dietitians to function as educators; (2) the amount of time dietitians spend on education-related functions and (3) the specific types of education duties required of the clinicians (Appendix E).

A pilot survey was mailed in September, 1982 to fifteen past graduates randomly selected from dietitians representing all past classes except the 1982 graduates. This class was omitted from the pilot survey because of the short duration since their graduation. As new practitioners they would not have sufficient experience on which to base their responses. Completed pilot surveys were returned from twelve former students. The survey was revised based on the responses of the pilot study.

In April, 1983 the revised Education Needs Assessment Survey was mailed to fifty-three of the fifty-four total past graduates. One program graduate did not participate as she is currently a faculty member of the CUP and is very closely associated with program curriculum development and modification.

A cover letter explaining the reasons for the questionnaire accompanied each participant's survey. The participants were not,

however, given specific information about the development of a new course.

The first page of the survey contained questions regarding the participants' current employment status and previous experiences. The responses to these questions will provide the program with specific data on the types of positions held by its graduates.

The participants were also asked to estimate the number of hours spent per week on a variety of activities. The activities were numerous but not necessarily all inclusive of a clinical dietitian's job requirements. The purpose of this question was to ascertain the average percentage of the dietitian's time devoted to various education related activities, i.e. conducting group classes and selecting patient education materials. Several non education related activities were included to try to avoid falsely high estimations of time spent in each area. These included writing in medical records, research, administrative duties, obtaining and evaluating nutritional assessment data, and a category for other blocks of time equal to three or more hours per week. The remainder of the categories pertained to what the author considers to be education-related activities. These included interviewing, counseling, teaching and/or giving presentations and the various individual components of the education process.

The participants were asked to rank their training provided by the USU CUP in fourteen areas. These were ranked on a scale of 1 - very valuable to 4 - weak or non-existent. The surveys were coded so that the year of graduation could later be identified. It is

important to know the year of graduation when analyzing responses because the USU CUP is modified yearly to reflect current needs.

The survey also contained a question which specifically asked how the past graduates felt about the junior year training in relation to their needs as senior students in the Salt Lake City experience. This was included to determine what, if any, areas of the junior year curriculum need more emphasis.

The last page of the survey contained two open-ended questions. One asked for areas of the USU program perceived to be the strongest in preparing the student to function as an educator. The other requested suggestions on types of educational experiences which could be added to the program in the area of nutrition education.

Student Presentation Evaluation Form

During the implementation phase of the course, Education in Clinical Dietetics, the need for evaluation tools was identified. As previously stated, measurement of didactic performance through written examinations evaluated against stated behavioral objectives is fairly straightforward. The evaluation of a student's performance in the clinical area is more difficult however. Even though behavioral objectives were stated for each of the assigned clinical experiences, i.e. teaching a lesson or planning a display, these do not clearly delineate the expected behavior in each of the aspects of the given assignment. They do not provide the learner or instructor with specific evaluative measures to distinguish between outstanding, acceptable and unacceptable performance.

The Student Presentation Evaluation Form, (Appendix F), was developed to be used specifically in the evaluation of student presentations, seminars and/or classes. The categories in which the student would be evaluated included objectives, organization, preparation, style of presentation, use of visual aids/media and use of time. A form previously used in the program contained essentially the same breakdown. It, however, asked for a rating based solely on the assessment of poor, fair, good or excellent. The revised form used descriptive information for four different levels of performance. Outstanding or optimal performance descriptions are located on the right-hand side of the form with the less ideal performance described to the left.

The four levels of performance were not headed with a word such as good or fair. This was done to stress that the method is intended to identify areas that are in need of improvement as well as strong areas, instead of labeling the individual performance areas.

This form was developed after and as a result of the new education course, hence it was tested during winter and spring quarters by instructors for juniors and seniors in the USU CUP.

Data Processing and Analysis

No statistical test procedures were used to interpret the data from the Needs Assessment Survey. This survey was intended primarily to obtain descriptive information about the current needs of past USU CUP graduates and their evaluation of the program in training them to function in specified areas. The area being investigated in the

survey is that of nutrition education related functions. A compilation of this data will serve as background information upon which present and future education units in the CUP can, in part, be based. After receiving the completed surveys, data from each question was tabulated categorically.

There were two major types of questions asked in the survey. One type asked for information relating to the nature of the position being held by the respondent. For each specific function, such as counseling patients, the total number of respondents participating in the activity, the mean amount of time, standard deviation and range of time spent were computed.

The other questions asked the respondent to rate the overall training and the junior year training provided by the USU CUP in preparing them to function in their position. For each category the number and percent of respondents indicating a need for greater emphasis in the program were calculated. Responses to the two open-ended questions were listed according to type of response, frequency and year of graduation of the respondent.

The lists of ranked suggestions obtained in the Nominal Group Technique were averaged to arrive at an overall list of sixteen ranked and weighed comments regarding aspects of the experimental course perceived in need of improvement or change by the eight students.

RESULTS

Restatement of the Problem

The effectiveness of the dietitian is partially dependent upon his/her ability to communicate and educate at all levels. The American Dietetic Association has stated many entry-level competencies which are closely associated with the process of educating and, in fact require training in the components of the process. A necessary element of all dietetic training programs, particularly coordinated undergraduate programs, is an education component which has as its objective to specifically train dietetic students in the education process. This component must be based on the current needs of practitioners as well as expected entry-level competencies. As with all phases of the CUP, the content must be presented in a manner which coordinates the didactic content with the experiential component. It is during the junior year of the CUP that students begin obtaining solid knowledge and technique background in the fundamentals of dietetics including assessment of nutritional status and interviewing and counseling. A provision must be made within this year of education for the student to gain a sound understanding of the dietitian's role as an educator.

Education Needs Assessment Survey

Responses from the Needs Assessment Survey were tabulated to provide descriptive data for the study. Surveys were sent to fifty-three of the fifty-four total past graduates of the USU CUP.

After a follow-up reminder letter, forty-four forms were returned. This is a response rate of approximately 83 percent. The analysis of responses to each question will be discussed separately, as the group of respondents was divided into subgroups in several instances to arrive at the most useful information and obtain an evaluation most reflective of the current USU CUP curriculum.

A summary of the respondents' employment data is presented in Table 2. Thirty-two of the respondents (73 percent) are currently employed as dietitians. Those not presently employed were asked to use their most recent position as a basis for answering the survey. The most recent position held was full-time in twenty-five (57 percent) of the respondents and part-time in sixteen (36 percent). Three respondents (7 percent) reported not having been employed as a dietitian since completion of their education. Of these three, two reported participation in part-time volunteer nutrition education projects. They will be included in other aspects of the survey, although they are not considered employed.

The most frequent job affiliations were hospital (54 percent), extended care facilities (25 percent) and colleges and universities (16 percent). Many respondents reported more than one affiliation for the most recent employment period therefore the total number of affiliations is greater than forty-four (Table 2).

Question 6 of the survey asked the respondent to estimate the number of hours spent per week in fifteen specific activities. A total of forty-two people completed this question. This included forty-one employed dietitians and one dietitian who spends two hours per week as a volunteer in the area of nutrition education.

Table 2. Employment data of past graduates of USU Coordinated Undergraduate Medical Dietetics Program

	1975	1976	1977	1978	1979	1980	1981	1982	Total (%)
Total No. in Class	5	12	3	3	7	10	5	9	54
Number who were sent survey	5	11	3	3	7	10	5	9	53
Number who returned survey (%)	5(100)	11(100)	3(100)	2(67)	5(71)	6(60)	5(100)	7(78)	44(83)
Number currently employed as R.D.	3	8	2	2	4	2	4	7	32(73)
Most recent position held: part-time	4	3	0	1	4	0	2	2	16(36)
Most recent position held: full-time	1	6	3	1	1	5	3	5	25(57)
Number never employed as RD		2				1			3(7)
Most recent affiliation:									
a. Hospital	4	5	1	1	4	2	4	3	24(54)
b. College	0	2	1		1		1	2	7(16)
c. Extended care facility	2	3	1	1		1		3	11(25)

Table 2. (continued)

	1975	1976	1977	1978	1979	1980	1981	1982	Total (%)
d. Private Practice		1				1			2(4)
e. Community Agency	1	1		1				1	4(9)
f. Business									0
g. Other	1 (school district)							1 (ECC)	2(4)

Item 9 of question 6 asked the respondents to list additional blocks of time equal to three or more hours per week and to specify the activity. If the response for this item clearly fit into another specified category, it was transferred to the appropriate category and added to that answer. For example the writing of policies and procedures is considered administrative so was counted under that heading. However, marking menus and updating cardexes are considered technical in nature and were not added to any listed category.

Even though the total of hours on this question was not expected to equal the total number of hour worked per week as reported on page 1 of the survey, there were many discrepancies seen in comparing the two answers. These included (1) reporting a range instead of specific number of hours on page 1; (2) not giving a total number of hours if working part-time; (3) reporting obviously incorrect total weekly hours (80 per week) and (4) stating on page 1 a work week of 40 hours and question 6 totaling over 50 hours. It was considered appropriate to base the analysis of data from question 6 on the total hours of all items in this question, rather than any totals given on page one. Even though this total may not equal the number of hours worked, the objective was to obtain percent of total time worked which is devoted to each activity.

Because the nature of a part-time position in dietetics is frequently different than a full-time position, the results have been computed and presented separately (Tables 3 and 4). Part-time positions may involve more administrative activity as they are

Table 3. Responses to question 6 of Needs Assessment Survey: graduates reporting part-time as most recent position

	Title of Activity	Number indicating spending time n = 17	(%)	Mean % of total time	S.D.	Range
1.	Interviewing clients/patients	10	(59)	24.8	14.3	1-50
2.	Counseling clients/patients	10	(59)	20.1	13.72	1-40
3.	Writing in medical records	11	(65)	19.8	13.4	1-50
4a.	Group classes/presentations for patients	5	(29)	12.2	15.56	4-40
4b.	Group classes/presentations for professionals	1	(6)	.85	0	.85-.85
4c.	Group classes/presentations for non-professionals	6	(35)	21.6	28.7	.85-60
5.	Research	3	(18)	59.7	49.7	4.1-100
6.	Administrative activities	6	(35)	24.5	19.49	8.3-59
7a.	Planning classes/presentations	9	(53)	9.6	12.1	3-40
7b.	Scheduling	3	(18)	2.0	1.08	.85-3
7c.	Preparing visual aids	3	(18)	3.2	1.66	1.7-5
7d.	Developing or selecting patient education materials	5	(29)	6.6	5.42	1.7-14

Table 3. (continued)

Title of Activity	Number indicating spending time n = 17	(%)	Mean % of total time	S.D.	Range
7e. Planning, preparing or selecting public education materials	3	(18)	5.3	4.58	.85-10
7f. Evaluation of education	1	(6)	6	0	6-6
NUTRITION EDUCATION PROCESS 7a through 7f	11	(65)	14.3	11.6	4.5-40
8. Obtaining and evaluating nutritional assessment data	9	(53)	37.7	27.2	11-100

Table 4. Responses to question 6 of Needs Assessment Survey: graduates reporting full-time as most recent position

	Title of Activity	Number indicating spending time n = 25	(%)	Mean % of total time	S.D.	Range
1.	Interviewing clients/patients	22	(88)	23.1	11.6	2.9-50
2.	Counseling clients/patients	23	(92)	21.9	13.4	6.6-50
3.	Writing in medical records	24	(96)	15.1	9.36	5-38
4a.	Group classes/presentations for patients	11	(44)	5	6.48	.6-23
4b.	Group classes/presentations for professioals	9	(36)	5.9	11.33	.5-36
4c.	Group classes/presentations for non-professionals	11	(44)	3.3	3.4	1-13
5.	Research	9	(36)	8.8	11.43	1-38
6.	Administrative activities	19	(76)	14.6	12.76	2.5-50
7a.	Planning classes/presentations	17	(68)	7	10.06	1-38
7b.	Scheduling	6	(24)	3	3.05	.9-9
7c.	Preparing visual aids	8	(32)	4.5	3.7	.8-11
7d.	Developing or selecting patient education materials	11	(44)	3.9	2.5	1-9

Table 4. (continued)

Title of Activity	Number indicating spending time n = 25	(%)	Mean % of total time	S.D.	Range
7e. Planning, preparing or selecting public education materials	10	(40)	2.9	2.1	1-8
7f. Evaluation of education	7	(28)	4	3.2	.5-8.6
NUTRITION EDUCATION PROCESS 7a through 7f	18	(72)	14.7	12.1	4-49
8. Obtaining and evaluating nutritional assessment data	19	(76)	12.2	11.8	.6-54

frequently involved with working as a consultant for an extended care facility. For each category of respondent, part-time and full-time, the total number of respondents reporting spending any time in each activity was calculated. The mean percent of total time, standard deviation and range were based only on those who reported spending time in a given activity.

In general a greater number of full-time dietitians reported time spend for direct patient contact, interviewing and counseling (88 and 92 percent) than the part-time dietitians (59 percent) although the percent of the total time interviewing and counseling represented were approximately the same.

Approximately one third of all respondents reported spending time conducting group classes and presentations. The nutrition education process components 7a through 7f were computed as a group as well as individually. For all respondents who perform functions in the education process, approximately fourteen percent of their total time is spend in this area. This represents approximately six hours per week for a full-time dietitian. A total of eight (19 percent) of the respondents reported spending time in the evaluation process of education which includes evaluation of lectures and classes and methods for assessing patient acceptance. This phase (evaluation) was the least frequently reported in the education process. The most frequent aspect of the education process performed was 7a, planning classes and presentations, including writing objectives and lessons. Sixty-two percent of all respondents spend time in this area.

There was a wide range of variability in the actual percent of time spent by respondents in any given area.

Question 7 asked the respondents to rank the overall training provided by the USU CUP in essentially the same categories as question 6. Administrative and research activities were omitted as these were not areas of study. A category was added for the use of motivational techniques in achieving behavioral change. A total of forty-one respondents answered question 7. Those not responding indicated that either the question did not apply to their job or they felt they could not judge accurately to provide useful information. The individual categories of question 7 were ranked by between 39 and 41 respondents. The results are summarized in Table 5.

The total number of graduating classes represented by the survey is eight, 1975 through 1982. During that eight year period the role of the dietitian has been changing and the program has changed to meet the current needs of the profession. In recognition of the fact that the early program (1975-1977) placed less emphasis on some of the more recent aspects of the profession, i.e. nutritional assessment, the respondents were divided into two groups for computation of the results. The early program graduates were those in 1975 through 1977 and the recent graduates were those who graduated in 1978 through 1982. The overall results for the eight years were also reported. Comments were received from some of the early graduates that the program may have lacked training in some areas, however, this would be true of other dietetic programs because the emphases differed from those of today.

Table 5. Responses to question 7 of Needs Assessment Survey: number and percent indicating USU training as limited (3) or weak (4)

	Category	Graduates from 1975-1977 n=17 Number (%)	Graduates from 1978-1982 n=24 Number (%)	All respondents n=41
1.	Interviewing clients/patients	1 (6)	0	1 (2)
2.	Counseling clients/patients	3 (18)	4 (17)	7 (17)
3.	Writing in medical records	1 (6)	0	1 (2)
4a.	Teaching group classes for patients/clients	7 (41)	12 (50)	19 (46)
4b.	Teaching classes/presentations for professionals	12 (71)	15 (68)	27 (69)
4c.	Teaching classes for non-professionals	7 (44)	12 (52)	19 (49)
5.	Planning classes/presentations	5 (31)	11 (46)	16 (40)
6.	Preparing visual aids	7 (41)	20 (83)	27 (66)
7.	Developing patient education materials	5 (29)	20 (83)	25 (61)
8.	Planning and preparing public education materials	9 (53)	19 (83)	28 (70)
9.	Selecting and evaluating nutrition education materials and information	7 (44)	12 (50)	19 (47)
10.	Evaluation of education (methods)	8 (47)	17 (71)	25 (61)

Table 5. (continued)

Category	Graduates from 1975-1977 n=17 Number (%)	Graduates from 1978-1982 n=24 Number (%)	All respondents n=41
11. Obtaining and evaluating nutritional assessment data	4 (24)	0	4 (10)
12. Use of motivational techniques in achieving behavioral change	8 (47)	10 (43)	18 (45)

Table 5 contains the number and percent of respondents indicating a rating of 3 (limited, needs some improvement) or 4 (weak or non-existent) in each of the categories for question 7. The items ranked the highest by all respondents, in other words, not in need of further emphasis, were interviewing, writing in the medical records, obtaining and evaluating nutritional assessment data and counseling. Between 2 and 17 percent of respondents ranked these areas as limited (3) or weak (4). In the respondents from the classes of 1978-1982, no one ranked interviewing, medical records or nutritional assessment as limited or weak.

Several areas were ranked as limited or weak by approximately half of all respondents. These included teaching group classes to patients (46 percent) teaching group classes to non-professionals (49 percent), selecting and evaluating nutrition education materials (47 percent) and using motivational techniques to achieve behavioral change (45 percent). In these areas the ratings by the 1975-1977 graduates were approximately the same as those received from the 1978-1982, the differences ranging from 4 to 9 percent points.

The planning of classes/presentations was rated as limited (3) or weak (4) by sixteen (40 percent) respondents. The total number was comprised of five (31 percent) of the 1975-1977 graduates and eleven (46 percent) of the 1978-1982 graduates.

The areas in question 7 most frequently rated by all respondents as limited or weak were items 4b, 6, 7, 8 and 10. Three of these were

concerned with the preparation of educational materials. These included evaluation of education (61 percent) developing patient education materials (61 percent), preparing visual aids/media (66 percent) and planning and preparing public education materials (70 percent). However, in the latter three areas major differences are seen between the early program and more recent program graduates. Twenty (83 percent) recent graduates rated each of the three mentioned areas as limited or weak. In the 1975-1977 graduates, between 29 and 53 percent rated these as limited or weak.

Question 8 asked respondents to directly relate their ability to function in the senior Salt Lake City experience to the training provided during the junior year of the USU CUP. The ranking scale was based on a level of how comfortable the student felt in each area. A response of 4 indicated no training prior to Salt Lake City in the area. A response of 5 indicated the student had no opportunity to function in the activity in Salt Lake City.

The analysis of this data was limited to answers provided by graduates from 1978-1983. This is the only question in which the recent graduating class of 1983 provided responses. The group graduating from 1975-1977 was not included in the results for several reasons. First, the Salt Lake City experience during those years differed in that it was associated with Brigham Young University, which it no longer is. In addition several respondents from the earlier graduating classes indicated on their surveys that they were having difficulty remembering this type of information.

Table 6 summarizes the number and percent of respondents rating each category. A total of thirty-one respondents rated the items in question 8. Interview training was rated by all as thorough (74 percent) or basic (26 percent). One respondent in each of the three areas, counseling, writing in medical records and nutritional assessment, rated the junior training inadequate. The other thirty rated the training for these as very thorough or basic.

In nine of the fourteen areas rated, between five (16 percent) and sixteen (52 percent) of the respondents reported having no opportunity to function in Salt Lake City. The nine areas included all of the categories related to the education process in teaching and planning classes, and preparing and evaluating educational materials.

Table 7 presents numbers and percent of only those who did function in these nine nutrition education areas. It is assumed that if the answer was a number other than 5 or 4-5, the person's evaluation is based upon actual performance of the activity in Salt Lake City.

Junior year preparation in each of the nine areas of the nutrition education process was rated as inadequate or non-existent by at least 31 percent or more of those who had to function in those areas in Salt Lake City. Of the nine activities, the most frequently ranked as inadequate were: developing patient education materials (55 percent), teaching classes for professionals (58 percent), preparing visual aids (64 percent), selecting and evaluating nutrition education materials (68 percent) and planning and preparing public education materials (69 percent).

Table 6. Responses to question 8 of Needs Assessment Survey: numerical rating responses of graduates from the classes of 1978 through 1983

1 - very comfortable as senior; junior training thorough
2 - somewhat comfortable as senior; junior training basic
3 - needed additional training; junior training inadequate
4 - no training prior to senior year
5 - no opportunity to function in SLC in this activity

Category of training	Numerical Rating Response 1	2	3	4	5	4-5
1. Interviewing clients/patients	23(74)	8(26)	0	0	0	0
2. Counseling clients/patients	17(55)	13(42)	1(3)	0	0	
3. Writing in medical record	19(61)	11(35)	1(3)	0	0	
4a. Teaching group classes for patients/clients	3(10)	14(45)	6(19)	2(6)	6(19)	
4b. Teaching classes/presentations for professionals	2(6)	6(19)	7(23)	4(13)	11(35)	1(3)
4c. Teaching classes for non-professionals	2(6)	7(23)	2(6)	3(10)	16(52)	1(3)
5. Planning classes/presentations	4(13)	11(35)	6(19)	2(6)	5(16)	2(6)
6. Preparing visual aids	0	8(26)	7(23)	7(23)	9(29)	
7. Developing patient education materials	0	10(32)	6(19)	6(19)	7(23)	2(6)
8. Planning and preparing public education materials	1(3)	4(13)	5(16)	6(19)	12(39)	3(10)

Table 6. (continued)

Category of training	Numerical Rating Response 1	2	3	4	5	4-5
9. Selecting and evaluating nutrition education materials and information	3(10)	4(13)	9(29)	6(19)	8(26)	1(3)
10. Evaluation of education	3(10)	15(48)	5(16)	3(10)	5(16)	
11. Obtaining and evaluating nutritional assessment data	21(68)	9(29)	1(3)	0	0	
12. Use of motivational techniques in achieving behavioral change	1(3)	17(55)	12(39)	1(3)	0	

Table 7. Responses for items 4a-10 of question 8 of Needs Assessment Survey: number and (percent) indicating numerical rating response 1, 2, 3 or 4 of the respondents from classes of 1978-1983 who indicated performing each given activity in Salt Lake City

The numberical rating responses are the following:
1 - very comfortable as senior; junior training thorough
2 - somewhat comfortable as senior; junior training basic
3 - needed additional training; junior training inadequate
4 - no training prior to senior year

Item #	Activity	n	1	2	3 or 4
4a	Teaching group classes for patients/clients	25	3 (12)	14 (56)	8 (32)
4b	Teaching classes/presentations for professionals	19	2 (11)	6 (32)	11 (58)
4c	Teaching classes for non-professionals	14	2 (14)	7 (50)	2 (36)
5	Planning classes/presentations	23	4 (17)	11 (48)	8 (35)
6	Preparing visual aids	22	0	8 (36)	14 (64)
7	Developing patient education materials	22	0	10 (45)	12 (55)
8	Planning and preparing public education materials	16	1 (6)	4 (25)	11 (69)
9	Selecting and evaluating nutrition education materials and information	22	3 (14)	4 (18)	15 (68)
10	Evaluation of education	26	3 (12)	15 (58)	8 (31)

Questions 9 and 10 of the Needs Assessment Survey were open-ended questions to elicit comments from the past graduates about areas of strength in the USU program in preparing them to function as an educator and also additional experiences perceived by the respondents as useful in the preparation.

Question 9 asked for the strongest component of the USU CUP in preparing the student to later function as an educator. A list of comments received is given in Table 8. Interviewing and counseling experiences were listed as strong components by members of almost every class from 1975 through 1981.

Many of the responses were related to clinical experience and nutrition knowledge. Recording in the medical records, working with and observing dietitians and general clinical experience were given as responses. At least one respondent from each class except 1978 commented about the thoroughness of the nutrition knowledge background. Four respondents indicated their senior project or practicum was useful in the education training.

The actual education process involving teaching classes and giving presentations was mentioned four times by graduates of 1975 and 1976. One response of this nature was received from a recent 1982 graduate; that was, the oral case presentations were helpful.

Question 10 asked for suggestions as to additional experiences which would help prepare dietetic students to function as educators. A list of responses is given in Table 9.

Table 8. Responses to question 9 of Needs Assessment Survey: number of respondents listing each content area as the strongest in preparing student to function as a nutrition educator

Content Area	Year of Graduation 75	76	77	78	79	80	81	82
I. Interviewing and counseling								
1. Interviewing, feel very comfortable with patients (6)	75(1)		77(1)		79(2)		81(2)	
2. Experience in counseling (8)		76(2)	77(1)	78(1)	79(2)		81(2)	
II. Clinical Experiences								
1. Observing others in actual work situations (1)					79(1)			
2. Time spent in hospital working with patients and staff (2)		76(1)	77(1)					
3. Charting in records in hospital (4)		76(1)	77(1)		79(1)		81(1)	
4. Clinically very thorough; helping me feel like I was an integral part of the medical team with whom I later worked (2)						80(1)		82(1)
5. Having active, practicing R.D.'s for resources during beginning initial counseling experiences; observing R.D.'s techniques (2)						80(1)		82(1)
6. Calculating special diets (1)							81(1)	

Table 8. (continued)

	75	76	77	78	79	80	81	82
7. Having the classes interspersed with the actual hospital experience reinforced the classwork (1)	75(1)							
III. Nutrition Content								
1. NFS 440 class (1)	75(1)							
2. Excellent knowledge base (1)					79(1)			
3. Assessing data, nutritional assessment (4)					79(1)	80(1)	81(1)	82(1)
4. The medical background, role of nutrition (4)		76(1)	77(1)		79(1)		81(1)	
5. Very good basic nutrition background (1)		76(1)						
6. Studying somewhat concerning fad diets and current misconceptions as these are the most frequently asked questions when dealing with the general public (1)								82(1)
IV. Presentations and education process								
1. Actual teaching of classes (1)		76(1)						
2. Instructional media work - we each had products which we used the Instructional Media department (1)		76(1)						

Table 8. (continued)

	75	76	77	78	79	80	81	82
3. Oral case presentations (1)								82(1)
4. Class presentations and the resulting evaluations (1)	75(1)							
5. The nutrition education unit in the clinical class (1)	75(1)							
V. Dietetics Profession								
1. The motivation and spirit that was given to strive to be better than average, to be assertive, to look at future potential (1)			77(1)					
2. Developed a strong sense of professionalism (1)					79(1)			
VI. Specific Coursework, curriculum								
1. Community nutrition class and projects (4)		76(1)	77(1)					82(2)
2. Salt Lake City experience (3)		76(2)		78(1)				
3. Probably my senior year - last quarter - when I had the opportunity to develop a program based on questionnaires - but looking back on it, the program was not practically oriented to the audience (1)					79(1)			
4. The didactic component was the strongest (1)		76(1)						

Table 8. (continued)

	75	76	77	78	79	80	81	82
5. My practicum with the WIC nutritionist, as well as my senior research project on "Assessing the knowledge retention of WIC participants" (1)						80(1)		
6. My senior project involved teaching WIC classes (1)								82(1)
7. Senior year practicum - hands-on experience (1)								82(1)

Most of the specific responses given were related to the education process and communications. Twenty different responses related to these two major areas were given in answer to this question. These varied widely in content and covered all major aspects of the process; including the theory of learning, the planning and developing phases, the actual presentation, teaching techniques and the evaluative phase. The item most frequently listed was experience in producing effective and professional looking visual aids and media. Twelve respondents from the classes of 1976-1982 indicated this as an answer. Other suggestions also given by graduates from a variety of classes were to include more experience in teaching groups, additional information on lesson planning, and developing and evaluating educational materials.

Nine responses were related to the area of communication and included assertiveness training, motivational techniques, public speaking and general communications.

Some very specific content areas were suggested by earlier graduates (1975 and 1976). Several of these included anorexia nervosa, health food faddists and megavitamin therapy, lab values and drug-nutrient interactions.

Question 11 asked the respondents to estimate the frequency with which they conduct classes or given presentations to a variety of audience sizes. The results from the part-time dietitians have been computed and listed separately from the full-time dietitians (Tables 10 and 11). Since all responses varied in the time frame reported, i.e. some listed individual instructions per day and some per week,

Table 9. Responses to question 10 of Needs Assessment Survey: number of respondents listing each content area as a suggested additional experience which would be useful in preparing student for role as nutrition educator

Content Area	Year of Graduation 75	76	77	78	79	80	81	82
I. Interviews and counseling								
1. Learning more about conducting one-on-one interviews (1)		76(1)						
2. Offer a class in counseling, more on counseling techniques (3)	75(1)	76(2)						
3. More role playing; practice (1)					79(1)			
II. Presentations, education process								
1. Giving presentations in the community (1)	75(1)							
2. More experience in teaching group classes, i.e. teaching basic nutrition, teaching local journal club classes, in community, hospital (8)	75(1)	76(2)		78(1)		80(2)		82(2)
3. More experience developing educational materials (3)				78(1)	79(1)		81(1)	
4. More in media, preparing and using visual aids, make them look professional (12)		76(2)	77(1)	78(1)	79(1)		81(2)	82(5)

Table 9. (continued)

	75	76	77	78	79	80	81	82
5. Lesson planning and evaluation, offer an education class or unit (5)		76(2)	77(1)				81(1)	82(1)
6. Methods of preparing, teaching and evaluating nutrition education programs (1)				78(1)				
7. Evaluating nutrition education material (3)				78(1)		80(1)	81(1)	
8. Developing and giving presentations (learning the process) for professional and non-professional groups (4)		76(2)			79(1)		81(1)	
9. Learning to write behavioral objectives (1)					79(1)			
10. Effective means of evaluation (2)					79(1)	80(1)		
11. More in teaching techniques; how to keep a class interesting (2)						80(1)		82(1)
12. Class planning for groups of patients (1)							81(1)	
13. Psychology of learning (1)								82(1)
14. Dealing more with general public; preparing public displays (1)								82(1)
15. Teaching classes and giving presentations to professionals (1)								

Table 9. (continued)

	75	76	77	78	79	80	81	82
16. Appropriate lessons and activities for elementary school children (1)								82(1)
III. Communications								
1. Communications classes (1)		76(1)						
2. Assertiveness training (1)					79(1)			
3. More direct feedback and suggestions from teachers (2)					79(1)		81(1)	
4. More information on public speaking (2)						80(1)		82(1)
5. Motivational techniques (3)					79(1)	80(1)		
IV. Specific Content Areas								
1. Working with behavior disorders like anorexia nervosa (1)	75(1)							
2. More background in dealing with and confronting health food faddists and megavitamin therapy (1)	75(1)							
3. More training in lab values and drug-food interactions (1)		76(1)						

Table 9. (continued)

	75	76	77	78	79	80	81	82
4. More experience with nursing home staff and patients because they have special problems (1)		76(1)						
5. Computer training (1)							81(1)	
V. General								
1. More interaction with other health care professionals (1)						80(1)		
2. This is difficult to answer because the emphasis on being a nutrition educator is recent (in past 8 years) (1)			77(1)					
3. Being exposed to a more realistic workload perhaps more after Salt Lake City experience (1)					79(1)			

Table 10. Responses to question 11 of Needs Assessment Survey: number and (percent) indicating giving classes/presentations to various size audiences and mean number of times per unit time (month or year) for those working part-time reporting participation

Size of Audience	Number indicating participation n = 18	(%)	Mean number of times	S.D.	Range (number of times)
a. Individual instruction (no. of times per month)	14	(78)	12.5	14	.25-40
b. 2-5 people (no. of times per month)	7	(39)	1.9	1.57	.25-4
c. 5-15 people (no. of times per year)	9	(50)	10	14.8	1-48
d. 15-30 people (no. of times per year)	13	(72)	2.8	1.7	1-6
e. 30-100 people (no. of times per year)	3	(17)	1.3	.58	1-2
f. Over 100 people (no. of times per year)	2	(11)	2	0	2-2

n = past graduates reporting part-time as most recent position including two dietitians who work part-time as volunteers in nutrition education.

Table 11. Responses to question 11 of Needs Assessment Survey: number and (percent) indicating giving classes/presentations to various size audiences and mean number of times per unit time (month or year) for those working full-time reporting participation

Size of Audience	Number indicating participation n = 25	(%)	Mean number of times	S.D.	Range (number of times)
a. Individual instruction (no. of times per month)	22	(88)	62	52.12	.8-200
b. 2-5 people (no. of times per month)	15	(60)	8.8	15.1	.08-60
c. 5-15 people (no. of times per year)	15	(60)	48	91.9	1-364
d. 15-30 people (no. of times per year)	16	(64)	50.5	98.5	1.5-360
e. 30-100 people (no. of times per year)	9	(36)	24.5	65.9	1-200
f. Over 100 people (no. of times per year)	3	(12)	1	0	1-1

the answers were changed into common denominations. Individual instructions and groups of 2 to 5 people were computed as number of times per month and groups of 5-15, 15-30, 30-100 and over 100 people were based on number of times per year.

The greatest frequency of instruction was in the reporting of individual instructions. Fourteen (78 percent) of the part-time respondents and twenty-two (88 percent) of the full-time respondents indicated giving individual instructions. The mean number of times per month was 62 among the full-time dietitians who functioned in this area and 12.5 for the part-time dietitians. In general a greater percent of full-time than part-time participated in other categories of group instruction. Exceptions were in the over 100 people class (part-time - 11 percent and full time 12 percent) and in the 15-30 people category (part-time - 72 percent and full-time - 64 percent). There was a very wide range of variability among respondents in the number of times classes were conducted per unit time.

In addition to answering the requested questions on the survey, extra positive comments were received from several graduates. These included the following: the excellent overall training provided by the USU CUP, how well the program prepared students to be an integral part of the medical team, the positive aspects of the coordinated approach to dietetic training and an early graduate mentioned how well prepared the current USU students are when they reach Salt Lake City.

Nominal Group Technique

The mean rank score was calculated for each of the sixteen suggestions received from the students in the evaluation. The actual score from the student was used in the calculation except for those items which were lower in value than the ten most important, for which there were no scores received. It was known as a result of the ranking that any item without a numerical rank had to be at least number eleven in order of importance. Therefore all items not within a given student's ten most important items were assigned a score of eleven.

During this evaluation many students reported having difficulty with the ranking. It is likely then that the six items below the top ten for each student, if ranked, would have been done so arbitrarily. Therefore, the assignment of number eleven to all items not ranked was probably an accurate method of compensating.

Table 12 summarizes the sixteen comments received in the nominal group technique. It includes the mean rank scores for each comment, and the number of students ranking each as number 1, number 2 and number 3. The suggestion most frequently included in the top three was to include more lab experiences in interviewing and role playing. Seven of the eight students ranked this in the top three and it had the highest mean rank of 2.63. The item with the third highest mean rank, 5.38, was related to this suggestion. It was to use more simulations in dealing with problem patients.

The second and fourth ranked comments were to include less theory in the Nutritional Care Planning, Implementing and Evaluation unit and

Table 12. Summary of ranking for Nominal Group Technique evaluation of course

Suggestion	Number ranking item as number 1	Number ranking item as number 2	Number ranking item as number 3	Mean Rank	Number ranking item among top ten N=8
1. Include more lab experiences in interviewing, role playing, etc.	4	1	2	2.63	8
2. Include less theory in Module IV, The Nutritional Care process and more practical application of this unit	1	2	0	5.0	7
3. Use more simulations of dealing with problem patients, i.e. uncooperative, crying patients	0	1	1	5.38	8
4. Include less theory of education, especially learning domains	2	0	3	5.75	7
5. Provide guidelines for completing the Nutritional Care Plan format	0	0	1	6.12	8
6. Include fewer time-consuming presentations at the end of the quarter	0	0	0	7.13	7
7. Use fewer "listing" questions on tests - more case problems	0	0	1	7.63	6
8. Delete extensive counseling unit from fall quarter; incorporate into winter and spring	0	1	0	7.63	5

Table 12. (continued)

Suggestion	Number ranking item as number 1	Number ranking item as number 2	Number ranking item as number 3	Mean Rank	Number ranking item among top ten N=8
9. Decrease the number of assigned presentations	1	1	0	8.25	3
10. Include more lectures on nutrition misinformation	0	0	0	8.62	5
11. Give the nutrition presentations in the actual setting; instead of in the classroom (i.e. clinic or school)	0	1	0	8.88	5
12. Provide more information as to available resources for nutrition education materials	0	0	0	9.0	6
13. The lesson plan format was not useful	0	0	0	9.25	3
14. Don't use the checklists for evaluation	0	1	0	9.87	1
15. Give the Journal article reviews another quarter	0	0	0	10.75	1
16. Give more assigned topics for presenting; instead of having students decide	0	0	0	11.0	0

more practical application and include less theory of education, especially of the learning domains. These are closely related as the content in learning domains was included in the Nutritional Care Planning unit.

Two comments, the sixth and ninth overall ranked, relate to the number of assignments. The suggestions are to decrease the number of time-consuming presentations at the end of the quarter and also to decrease the total number of assignments.

The remainder of the overall ten highest ranked suggestions were more specific and included comments related to the types of tests used in the course, the counseling unit, and to include more lectures on nutrition misinformation.

Other Evaluations

The senior graduating class (1983) also participated in the evaluation of the USU CUP program with respect to education content. In addition to answering question 8 of the Needs Assessment Survey, they were also asked to verbalize suggestions for experiences which could be added or changes made in the program to strengthen the component.

Two major suggestions came out of this session. One comment was to provide seniors, after the Salt Lake City experience, with a refresher or reinforcing class or workshop in counseling techniques. This would serve, in part, as an evaluative exercise to assess each student's techniques at a point in the program when they have firmly established their methods. The seniors felt as a group that it would

be helpful to receive feedback after the Salt Lake City experience and prior to their entry into a first position in which these skills would be used.

The other major suggestion was to provide additional experiences, perhaps after Salt Lake City, in giving presentations or group classes to audiences consisting of people in a health profession such as nursing. It was expressed that if this experience came during the senior year, the students' background knowledge and experience would be technical and thorough enough to make it a meaningful assignment.

The response to the added course Education in Clinical Dietetics, by faculty in the program and those associated with the program was favorable. A local nutritionist who was not aware of the additional course in the junior year curriculum, after viewing the junior oral case presentations at the end of winter quarter, 1983, commented that the students generally were more at ease and presented themselves well in front of a group. She felt the students had better abilities in this area than USU dietetic students she had observed in past years.

The Student Presentation Evaluation Form (Appendix F) was tested winter and spring quarters by the author and by a Clinical Instructor in the program. It was used in evaluating the senior students' one hour seminars and the junior students' short oral presentations. Both instructors involved in testing the form found it to be a very specific and meaningful method of providing feedback to the students. It was found, however, that to use the form effectively, it must be filled out either during or as soon after the presentation as possible.

DISCUSSION

Education Needs Assessment Survey

The analysis of the results from the Education Needs Assessment provided considerable insight into the current needs of clinical dietitians, particularly graduates of the USU CUP. The aim of the survey was to identify specific areas of performance within the dietitian's position which require training in the various aspects of nutrition education. Another objective was to determine the areas of the USU CUP in which the past graduates perceive a need for additional training.

A problem was encountered in interpreting the data from question 6 which asked for the amount of time spent in various activities. It is difficult to know whether the results actually reflect the needs in the various clinical positions which were represented.

The more important data here is actually the number of dietitians performing the aspects of the education process (7a-7f) rather than the amount of time spent. First a relationship may exist between the amount of previous training and whether the dietitian performs a particular function. This may be a factor in the answers received in 7a through 7f because these activities are less likely to be "written into" a dietitian's position than other aspects like counseling. Performing the education aspects may be more a result of a dietitian's initiative which in turn is probably reflective of his/her confidence in the area.

Another question to be posed is whether the respondents actually attempted to provide the detailed breakdown requested in the question. For example, with 23 (92 percent) of full-time dietitians reporting giving diet counseling and 11 (44 percent) giving group patient classes and group non-professional classes, why are only seven (28 percent) reporting participation in the evaluative phase of education? This implies that the respondents not indicating time spent in evaluation either do not know and use evaluation as an essential component of any educational endeavor or they perform it but did not indicate it separately. Mason et al. (1982) contends that the evaluation process itself is poorly understood and that when it is used in the clinical setting it may be strictly limited to looking for client knowledge realization. Not only should it involve the evaluation of actual behavior change, but equally important is the dietitian's own evaluation of his/her success as an educator on an on-going basis.

Another finding was that only approximately 50 percent of all respondents who counsel patients indicated that they help select or develop patient education materials. If this is truly an indicator of the dietitian's input in this process, there may need to be more emphasis on the dietitian's role in selecting, as well as developing, educational materials for patient use.

The overall evaluation of specific areas of the USU CUP as derived from answers to question 7 points to a need for further emphasis in the education process. There was evidence of strength and thoroughness in the represented clinical components of the program

(medical record charting, interviewing, counseling and nutritional assessment).

The planning and development phase of educational programs and materials appears to be the major area in which respondents feel least adequately prepared. In this case the lack is apparently not in the technical knowledge to prepare the materials. This is known because of the numerous positive comments in the open-ended question 9 rating the didactic component as a definite strength. It may therefore be related to a lack of the actual practice of the function, such as preparing a public display or developing a low sodium handout, during the dietetic training. Items in this category which are in need of more practice exercises include developing patient and public education materials and visual aids/ media.

Of the recent graduates (1978-1982), seventeen (71 percent) listed evaluation of education as limited or weak. This may be another reason for the relatively small number of dietitians conducting evaluation as previously discussed.

The responses from question 8 relating the student's junior year training to her/his ability to function in the senior year Salt Lake City experience are in general agreement with those of the overall evaluation in question 7. The reason for students not having the opportunity to function in various activities is because of the nature of the time in Salt Lake City. The clinical experience is generally uniform from one student to another whereas the adjunct activities such as teaching classes may differ. The senior practicums

will also vary from one student to another which may also account for differences in answers. This is not to imply that all students should necessarily perform the listed duties during the Salt Lake City phase. The information gained in this question serves a twofold purpose. First, for those students who were expected to perform in the various roles, was their prior training adequate to achieve success in the activity? Second, if the student did not have the chance in Salt Lake City to perform in an area, is there another opportunity, before or after, to practice in the given focus? The adoption of the recommendations in the study should result in adequate training prior to the senior year as well as adequate practice before and/or after Salt Lake City in each required area.

The evaluation of the junior training by the respondents who did function in the areas, however, indicated that those in which they felt weakly prepared are generally the same areas which were ranked as limited or weak in the overall program evaluation question 7. Essentially this involves the education process; specifically, the planning and development of materials and to a slightly lesser extent, teaching classes and giving group presentations.

According to the needs of the students, as indicated by the responses to this question, the junior year seems to be an appropriate time to provide a thorough background in the needed areas to prepare students for the Salt Lake City experience.

The majority of the comments given in answer to question 9, which asked for program strengths were related to the professional, academic and clinical aspects of the program rather than direct

education-related experiences. This again points to the fact that the USU CUP graduates feel comfortable about themselves as dietitians, their role in the profession and as members of the health team, and their nutrition-related medical background. More future emphasis on the areas of communications and education can only serve to enhance this professional image and knowledge base transmission through the dietitian's interactions with people. Some practicum experiences also seemed to be a positive method of preparing students because they must go through the entire process of planning, implementing and evaluating a program or project.

The experiences suggested in question 10 to be added to the program were essentially the same as those areas rated as limited or weak in the other portions of the survey.

The experimental course which was developed in this research project provided experiences in many of the suggested areas found in the surveys. It also provided background information necessary to later perform in the areas for which practical application was limited or not included. Specific recommendations for the revision of the course will be discussed in that section of the thesis.

Nominal Group Technique Evaluation

One of the major suggestions which prevailed in the students' evaluations in the Nominal Group Technique was to include more practical application throughout the course and less theory. One of the problems with providing the practical application in the Nutritional Care Process, for example, is that during the fall quarter

of the junior year, the students' experiences are limited. Since they have not had the opportunity to see and function in the clinical setting, it is difficult to use meaningful examples which will be fully understood.

This is also true of any discussions of the counseling process. The students have not yet learned what is involved in trying to achieve dietary modification when needed as a result of medical problems. Since the actual application of the counseling process does not occur until the last weeks of the fall quarter which is basic and more fully in winter quarter, a strong emphasis on counseling techniques during fall quarter is probably not beneficial.

A major criticism was that the information on learning theory and learning domains was "just words" and the students remarked that they did not remember any of it. This evaluation was conducted at the end of the students' junior year. At this time it may have been difficult for the students to recognize ways in which they may have applied the information. On the other hand, altering teaching methods may improve the success of the unit. This might include more extensive use of examples and getting the students involved more in participation. Also needed is a continuous reinforcement of the information, when applicable, after the course is completed.

Another response to the criticism is the framework in which it was presented. The learning domains were included in the planning phase unit of the Nutritional Care Process. Chapter 11 in the Dynamics of Clinical Dietetics (Mason et al., 1982) contains examples which were used. The examples relate to types of objectives used for

patients, how to sequence them and how to recognize their achievement. Again, the fact that the students have had no patient contact at this time makes it apparent why some of the information lacked the relatedness to later be transferred.

Recommendations

The future inclusion of the proposed (revised) course, "Education in Clinical Dietetics," in addition to adjunctive emphasis on practical application of nutrition education-related competencies throughout the professional phase of the program should result in the dietetic student's development of adequate expertise in the process of nutrition education.

The competencies formulated for the course include four, one for each unit as described in Appendix A. A comparison of the performance of the students at the end of the course with the four expected competencies indicates some problems. It would be extremely difficult or impossible to conclude that the dietetic students achieved or even could achieve all four competencies, as stated, by the end of fall quarter of the junior year. Instead these competencies technically represent the expected performance of the dietetic student by the end of the junior year of the Coordinated Undergraduate Program.

This concern is stated at this point in the evaluative process for numerous reasons. The students in the course did have the opportunity, through exams, projects and simulated lab experiences, to demonstrate completion of the enabling objectives (E.O.'s) for each unit. On the other hand, the actual demonstration of most terminal

performance objectives (T.P.O.'s) and all competencies did not occur until the winter and spring quarters of the junior year. For example, completion of Terminal Performance Objective 4.3, apply communication skills and counseling principles and techniques in client/patient counseling situations for the provision of optimal nutritional care, is not possible during the fall quarter. The students have not had sufficient technical background in therapeutic diets to comprehend what is entailed in achieving behavioral change resulting from dietary counseling.

The students also do not have the opportunity to practice this in the clinical setting to fulfill the meaning of the objective. The sole counseling performed during fall quarter is at the end of the quarter in NFS 301, Perspectives of Dietetics when students do very basic diet evalutions of a patient with no nutritional modifications. The patient's diet is evaluated for adequacy based on recommendations for healthy individuals and suggestions are made regarding dietary measures to improve the quality of his/her dietary intake. This is a limited exposure to counseling and would not be considered appropriate for accurate evaluation of the objective.

It becomes evident then, that we can expect students to be doing preliminary work in fall quarter toward the achievement of the competencies. The recommendations for revision of the course must therefore consider the entire junior year curriculum.

Proposed recommendations for the inclusion of the content which students need in order to achieve competencies one through four during the junior year follow:

1. Since the CUP is a highly concentrated professional program, the timing for inclusion of content areas must be very carefully planned to achieve maximum efficiency of staff and resources and to be most beneficial to the development of the dietetic student's competencies. It is recommended that the focus of the education course, fall quarter be in those areas for which the students have sufficient prerequisite knowledge and for which the students have or have had adequate exposure or experience with which to relate. Several major topics which were covered in the experimental course definitely meet these criteria.

Module I, Nutrition Education, in its entirety, can be included at the beginning of the fall quarter course. This unit can serve to present the rationale for much of what the student does throughout the program and later as a dietitian.

The additional emphasis on the development and production of public nutrition education displays seemed to provide a useful experience for the junior. The assignment spanned all three quarters. Fall quarter involved planning a variety of displays. During winter quarter decisions were made about possible locations for the display. A group display was designed using suggestions from the individual projects and was produced by the students. In spring quarter the display was utilized for two different local health fairs. Students manned the displays, answered questions and provided basic nutritional assessment. These experiences will hopefully provided current students with the needed training in public education, one area in which the majority of graduates felt weakly prepared.

Module II, Health Professional/Patient Interaction, is a very important unit in preparation for the clinical experiences which follow in winter and spring quarters. Unit I of the module, Effective Communications, is essential for students in all health professions and the fall quarter is an appropriate time for this training with the use of discussions, commication lab exercises and role playing. Unit II, The "Therapeutic Helping Relationship," is also needed before extensive clinical experience is begun. The students found this unit particularly helpful in their patient interactions. They recognized the value of role playing and simulations as indicated by two of the most frequent suggestions. They requested more practice in the area of patient interactions, especially in dealing with problem patients.

2. Module III, Teaching Skills and Methods, is in need of slight revision. During the fall quarter, the students do need to be trained in the process of planning, presenting and evaluating a class. The practice of this during the fall course could be limited to one teaching experience in the classroom setting on a nutrition topic previously studied by the student. As a result of this experience, the dietetic student should be able to apply the principles to any teaching situations that arise. It is suggested that the remainder of the practical application of the teaching unit come after fall quarter and to some extent in a more real life setting than in the classroom.

In last fall's course, a variety of hypothetical audiences were used for the teaching. This was not a useful method. It was virtually impossible to decide whether the content level was

appropriate, if the objectives were realistic and whether the evaluative tool would have succeeded in measuring learning.

The presentation of at least one class in the actual setting during winter and spring quarter would vastly improve this experience. The way in which an assignment such as this would be incorporated into the program is dependent upon many curriculum factors. Several possibilities include the following: (1) utilize an existing course such as Food Service Management or Community Nutrition for inclusion of more formal group teaching experiences; (2) add to winter and/or spring quarter, a 1 credit education course to serve as a continuation of the fall course and to develop more educational experiences or (3) consider the possibility of including a group teaching experience in the senior year to conduct a class in the community, schools, hospitals or clinics.

Another advantage of having more emphasis on group teaching after the fall quarter is that it would give the instructor the opportunity to: (1) see the student's interaction with a group in a "real" setting, (2) evaluate the student's use of teaching skills and education principles learned in the fall quarter class and (3) evaluate the student's comprehension of the subject matter, e.g. after the student has learned about the importance of nutrition during pregnancy in January, have her/him present a short prenatal nutrition class later in the year.

3. Related to the teaching unit is training in how to select and/or produce and evaluate visual aids/media for educational purposes. The need for this training was recognized by many of the

past graduates. Several respondents recommended the requirement of an instructional media course. This is not a practicable answer to this need because of time constraints and other course needs of the program. The importance of effective media utilization was emphasized throughout the experimental course, however the training for students in media application was very limited. This was partially due to a lack of adequate facilities within the Nutrition and Food Sciences Building.

Future planning in the area may include the use of the USU Instructional Technology Department to conduct a short workshop for dietetic students during fall quarter. Specific media needs of dietitians may be emphasized in such a program.

4. Human motivation and assertiveness training were very briefly covered in the course. The need for assertiveness training has been identified by past graduates as well as by instructors in the program. A guest lecture by a person qualified in the area, which was done in the past, may be an effective method of meeting this need again in the future.

5. The training provided by the USU CUP in presenting to professional audiences was generally considered to be weak. An assignment included in the past several years has been the Senior Seminar. This is a one-hour presentation given by the dietetic student during the winter or spring quarter of the senior year to the other class members, the junior class members, program and department faculty and Logan Journal Club members (dietitians). This experience should be able to meet the perceived need. This experience may be

strenthened by emphasizing the entire process of planning, assessing audience needs, and effectively presenting and evaluating the one-hour program. Hopefully the students will utilize the training provided by the new course to begin the assignment with the background to efficiently carry out the process. It might also be stressed to the students that one of the objectives of the assignment is to prepare them to conduct classes and/or presentations for professional audiences.

6. Module IV, The Nutritional Care Process, is in need of deemphasis in some aspects and more emphasis in other aspects. The need for these changes is evident if one views this module from the standpoint of the student's level of development early in the program. The interview unit is one of considerable importance early in the dietetic student's training. The student does not need prerequisite knowledge in diet as related to disease, nor does he/she need experience in the clinical setting to benefit from a very extensive unit in dietary interviewing fall quarter. It is felt that, in view of the current literature and the suggestions made by the students who took the course, additional lab experiences are needed fall quarter using simulations and role playing. These can be used to prepare the student and examine interviewing techniques in a non-threatening environment. A possibility to be considered is the inclusion of an exercise in which the dietetic student would interview a non-dietetic college student volunteer.

The three components of planning, implementing and evaluating in the Nutritional Care Process need to be introduced to the student

during the fall quarter. This could include a description of the phases, the role of the dietitian in each and their relationsip to the total nutritional care of the patient. This signifies a deemphasis from the original plan. Also whenever possible the instructor must use examples in discussing the components. As was stated previously, the student will utilize the principles of planning and evaluation in the group setting as well as in the individual Nutritional Care Plan.

The sequence of this module in the overall course will depend partially on the timing of the assessment phase unit in NFS 301. The assessment phase is the first in the Nutritional Care Process.

The implementing (counseling) unit does not need more than an introduction during fall quarter. In the experimental course, emphasis was placed on counseling techniques and videocassettes were shown. This proved not to be an optimum time for presenting a thorough counseling unit. Again the students do not have adequate experience or knowledge of modified diets to apply the information. An appropriate time at which to provide training in proper counseling techniques is winter quarter when students have their first opportunities to counsel patients.

In the past, the students' counseling sessions winter quarter in the clinical setting have been observed by instructors and feedback provided. Provision of training for the types of objectives listed under Terminal Performance Objective 4.3, especially Enabling Objective 4.3.4 through 4.3.9, would require a structured unit during winter quarter. The types of experiences could include viewing videocassettes and completing associated discussion questions, having

students role play diet instructions prior to presenting to a patient, having students observe preceptor dietitians or instructors giving simulated or real instructions, and providing monitored recitation periods in which students would exchange counseling ideas and experiences. Exercises such as these could be accomplished in several ways. One alternative is to include these in some of the clinical periods at the hospital. Another possibility would be to increase Clinical Nutrition 456 from four to five credits, one credit of which would be a recitation hour to deal with diet counseling and modified diets. Another consideration was already mentioned under recommendation 2. That was to include a 1 credit lab education course in winter quarter. It could be this course during which counseling training is provided. As was stated many times in the literature, being an effective counselor requires considerable training and constructive feedback from instructors.

In summary the suggestions with regard to the Nutritional Care Process are the following: (1) increase the practice experience in interviewing; (2) deemphasize the counseling unit fall quarter and incorporate it into winter and spring quarters and (3) decrease the amount of lecture time devoted to the planning and evaluation phases and also stress these during winter and spring when specific cases can be used as examples.

7. It is suggested that more evaluative tools such as the Student Presentation Evaluation Form be developed for other clinical aspects of the program. In the new course, emphasis was placed on identifying students' strengths and weaknesses early in the quarter in

the areas of communicating and presenting. Areas of concern were concentrated on to achieve improvement. The same process can apply to a student's counseling skills. Since it is difficult for an instructor to be available to intervene on every counseling occasion, some of the responsibility can be placed on the student in the form of self evaluation. He/she can utilize checklists and/or evaluative forms to assess his/her counseling sessions for improvement in previously identified problem areas. For example, if the instructor has noticed a predominance of close ended questions during a student's counseling sessions, this would be made aware to the student who would then make efforts to watch for and correct the problem.

8. Some of the goals of this study may be reached merely by taking advantage of situations and focusing on nutrition education. This is especially true when time and resources do not permit actual practice. One example of a frequent occurence in the clinical setting is the distribution of printed nutrition or diet information. In order to better prepare for the student's future job of selecting, developing and evaluating educational materials, the student can be trained to ask the following questions:

    1. Is the material clear, concise, and attractive and in terminology appropriate to the patient?
    2. If I were asked to develop or select commercial material in the same area, how would I go about it?
    3. Are the most important concepts in the material situated such that they are prominent?

4. If further information is needed, who can I or the patient contact?

This is not a time consuming method, yet does result in added emphasis on desired areas.

9. It is recommended that consideration be given to dividing the course content of Education in Clinical Dietetics into two quarters. This could be accomplished by offering a two or three credit course fall quarter and a one credit education lab course during winter or spring quarter. The course given fall quarter would be essentially as developed with the exclusion of some of the teaching exercises and a decreased emphasis on the planning, implementing and evaluating phases of the nutritional care process.

The goal of an additional course, such as a one credit education lab, would be to contain the content deemed inappropriate for the fall quarter of the junior year in the Medical Dietetics Program. If it is possible in the future to add a one credit lab course, some of the lab experiences which might be considered for inclusion are counseling, teaching skills, assertiveness training, motivational techniques and public education efforts.

Conclusion

The aforementioned recommendations do include the addition of experiences into what is already a very concentrated and academically demanding program. It has been the author's intention to present numerous options for curriculum modification. Naturally any additions or modifications can be made only within the scope of content and expectations which are feasible and realistic for both program students and faculty. It is also crucial that any modifications in the program do not compromise or result in detrimental effects on other aspects of the program.

It is concluded, therefore, that the added course, Education in Clinical Dietetics, in conjunction with additional emphasis on nutrition education throughout the USU CUP is needed, can realistically be incorporated and can result in the main objective of the study. This objective was to enhance the nutrition education component in the USU CUP in order that the students will be well prepared to perform optimally those entry level competencies requiring nutrition education expertise.

LITERATURE CITED

A.D.A. reports: A.D.A. speaks to the Senate on nutrition education. 1980. J. Am. Dietetic A. 76:491.

Adams, C.H. and Fitz, P.A. 1979. Simulation exercises for interview training in dietetics: A module on listening skills. J. Am. Dietetic A. 74:50-52.

Baird, S.C. and Armstrong, R.V.L. 1980. Role delineation for entry level clinical dietetics 1980 summary and final documents. The American Dietetic Association, Chicago, IL.

Bell, C. 1976. Role vs. entry-level competencies in competency-based education. J. Am. Dietetic A. 69:133-137.

Borg, W.R. and Gall, M.D. 1979. Educational research. Longman, New York.

Caliendo, M.A. 1981. Nutrition and preventive health care. Macmillan Publishing Co., Inc, New York.

Council on Education of the American Dietetic Association. 1982. Standards of education for programs preparing dietetic practitioners for technical and entry-level professional roles in clinical dietetics, first draft. The American Dietetic Association, Chicago, IL, p. 6.

Danish, S.J. 1975. Developing helping relationships in dietetic counseling. J. Am. Dietetic A. 67:107-110.

Diet Therapy Section of the American Dietetic Association. 1975. Guidelines for diet counseling. J. Am. Dietetic. A. 66:571-575.

Dow, R.M. 1981. Simulations teach management and nutrition counseling skills. J. Am. Dietetic A. 79:453-455.

Glanz, K. 1979a. Dietitians' effectiveness and patient compliance with dietary regimens. J. Am. Dietetic A. 75:631-636.

Glanz, K. 1979b. Strategies for nutritional counseling. J. Am. Dietetic A. 74:431-437.

Ingalsbe, N. and Spears, M.C. 1979. Development of an instrument to evaluate critical incident performance. J. Am. Dietetic A. 74:137-140.

LaQuatra, I. and Danish, S.J. 1981. Effect of a helping skills transfer program on dietitians' helping behavior. J. Am. Dietetic A. 78:22-27.

APPENDICES

APPENDICES

Appendix A

Education in Clinical Dietetics

Course Outline

EDUCATION IN CLINICAL DIETETICS
NFS 490
Course Outline

Class Time: Monday: 10:30-12:20
Wednesday: 10:30-11:20
Friday: 10:30-11:20

Week 1	Wed.	Introduction to Course, The Dietitian as an Educator
	Fri.	Introduction to Nutrition Education
Week 2	Mon.	Lab: Communications
	Wed.	Nutrition Education (continued)
	Fri.	Human Communications
Week 3	Mon.	Videocassette: Dietary Interview Appraisal Skills The Patient's Perspective
	Wed.	Effective Dietitian/Patient Interaction
	Fri.	Interviewing Techniques
Week 4	Mon.	Lab: Interview Simulations/Role Playing; Interviewing to Obtain Dietary Information
	Wed.	EXAM #1
	Fri.	Introduction to Teaching Methods: Demonstrations, Lesson Plans
Week 5	Mon.	Lab: Planning for Education, Behavioral Objectives
	Wed.	Teaching Methods & Skills, (continued)
	Fri.	Nutritional Care Process: Planning
Week 6	Mon.	Nutrition Counseling Videocassette and Workshop
	Wed.	Nutritional Care Process: Implementation
	Fri.	Nutrition Counseling, (continued)
Week 7	Mon.	Lab: Oral Presentations: Reviews of Nutrition Education Related Articles
	Wed.	Nutritional Care Process: Evaluation
	Fri.	Evaluation, (continued), Pt. Compliance
Week 8	Mon.	Lab: Demonstrations
	Wed.	Demonstrations (continued)
	Fri.	Evaluation of Education
Week 9	Mon.	Lab: Visual Aid/Media Selection & Use
	Wed.	Thanksgiving Holiday
	Fri.	Thanksgiving Holiday

Week 10	Mon.	Lab: Final Presentations
	Wed.	Visual Aids (continued)
	Fri.	Review "Putting It All Together"
Week 11	Mon.	Lab: Final Presentations
		FINAL EXAM

Evaluation Criteria

Exam 1 @ 100 pts.	100
Final Exam	150
Lab/discussion Participation	50
Self evaluation of interview	25
Education Display	25
Review of Article	25
Demonstration	25
Final Presentation	100
Total Points	500

Required Texts:

1. Mason, M., Wenberg, B.G. and Welsh, P.K.: The Dynamics of Clinical Dietetics, 2nd Edition. New York: John Wiley & Sons, 1982.

2. Purtilo, R.: Health Professional/Patient Interaction, 2nd Edition, Philadelphia: W.B. Saunders Co., 1978.

3. Caliendo, M.A.: Nutrition and Preventive Health Care. New York: Macmillan Publishing Co., 1981.

NFS 490 Module I - Nutrition Education

Competency Statement 1.

Comprehend the field of nutrition education, including the role of dietitian, factors that influence ones ability to provide nutrition education, reasons and guidelines for providing education to the public and the impact of industry and media on education efforts.

UNIT I: The Dietitian as an Educator

TPO 1.1. Explain the relationship between the dietitian's role as a translator of the science of nutrition and that of an educator.

EO 1.1.1. Describe the dietitian's functions which necessitate good communication skills.

EO 1.1.2. Describe the dietitian's functions which necessitate education skills.

EO 1.1.3. List the 5 nutrition education functions of the dietitian as identified by the American Dietetic Association.

II. References:

ADA Reports: A.D.A. Speaks to the Senate on Nutrition Education. JADA 76:491, 1980.

III. Learning Experiences:

1. Didactic/Discussions
   Lecture: The Dietitian as an Educator
   Discussion: Characteristics of an Effective Educator

NFS 490 Module I - Nutrition Education

UNIT II: Introduction to Nutrition Education

TPO 1.2 Understands the need for and the scope of the dietitian's role in the provision of nutrition education in the U.S.

EO 1.2.1. Differentiate between nutrition education and the provision of nutritional information.

EO 1.2.2. Explain the overall recommendations of the American Dietetic Association for the provision of nutrition education to the population.

EO 1.2.3. State the primary objective of nutrition education.

EO 1.2.4. Discuss factors in answer to each of the following questions:

a. What does food contribute, besides needed nutrients?
b. From what do an individual's eating patterns evolve?

EO 1.2.5. Explain the implications of EO 1.2.4 above to the successful achievement of nutrition education goals.

EO 1.2.6. Explain 5 conditions that exist in the United States today that necessitate strengthening nutrition education efforts.

II. References:

Caliendo, M.A.: Nutrition and Preventive Health Care. New York: Macmillan Publishing Co., Inc., 1981. (Chapter 13).

III. Learning Experiences:

1. Didactic/Discussions
   Lecture: Introduction to Nutrition Education
   Small Group Discussions: Influences on nutrition education efforts

   a. What does food contribute to an individual's life, in addition to nutrients?
   b. What factors contribute to the development of an individual's eating patterns?

NFS 490 Module I - Nutrition Education

UNIT III: Nutrition Education: Public Concerns

TPO 1.3 Demonstrates the relationship between nutrition education and the influences of industry, media and schools.

EO 1.3.1. Outline the factors affecting food habits that are under the control of the consumer.

EO 1.3.2. State the pros and cons of the food industry relative to North American food and nutritional status.

EO 1.3.3. Describe nutrition education efforts of the food industry.

EO 1.3.4. Describe the influence of mass media on food habits.

EO 1.3.5. Describe five general issues confronting nutrition educators.

EO 1.3.6. Describe three general problems with federal involvement in nutrition education.

EO 1.3.7. State three nutrition education measures to combat counternutrition education messages.

EO 1.3.8. List three general ways to increase the effectiveness of nutrition education through mass media.

EO 1.3.9. Describe the current state of nutrition education in the schools, in primary care settings and in medical schools.

EO 1.3.10. State what can be expected from nutrition education in terms of the modification of food habits.

TPO 1.4 Knows basic measures to combat nutrition misinformation.

EO 1.4.1. List 4 ways to recognize a "food quack."

EO 1.4.2. Describe the 5 criteria that would be employed in evaluating weight loss diets for reliability.

EO 1.4.3. Explain the 4 rules for evaluating medical information as stated in the Harvard Medical School Health Letter.

EO 1.4.4. Explain 3 reasons why steps should be taken to combat nutrition misinformation.

II. References:

1. Caliendo, M.A.: Nutrition and Preventive Health Care. Chapters 12 and 14.

2. Herbert, V.: Nutrition Cultism. Philadelphia: George F. Stickley Co., 1980.

3. How to evaluate medical information. The Harvard Medical School Health Letter 3:6, 1978.

4. A Special Supplement: Nutrition Misinformation and Food Faddism. Nutrition Reviews, July, 1974.

III. Learning Experiences:

1. Didactic/Discussions
   Lectures: Nutrition Education: The Food Industry and Media
   Issues Confronting Nutrition Education
   Combatting Nutrition Misinformation

2. Clinical

   a. Plan an effective nutrition education display for public viewing in a mall setting depicting some aspect of the U.S. Dietary Guidelines.

   b. Plan and produce an original nutrition education handout appropriate to the educational level of the general public.

   c. Evaluate commercially prepared educational materials for effectiveness and applicability to various audiences.

NFS 490 Module II - Health Professional/Patient Interaction

Competency Statement 2

Communicates effectively with people at all levels taking into consideration their physiological, psychological, social, cultural and economic status.

UNIT I: Effective Communications

TPO 2.1 Knows principles of effective verbal and non-verbal communications.

EO 2.1.1. Define/describe the four factors on which successful verbal communications depend.

EO 2.1.2. Explain the role of the dietitian as a verbal communicator and the results of ineffective verbal communications on patient/dietitian interactions.

EO 2.1.3. Describe three ways messages can become distorted on the part of the client/patient, how the dietitian can detect these problems, and suggest methods of minimizing patient/client misunderstandings.

EO 2.1.4. Define/describe techniques for good nondirective listening.

EO 2.1.5. Define/describe pantomime, demonstration, and meta communcation as nonverbal communications and give examples of their uses in and influences on dietitian/client interaction.

EO 2.1.6. Describe the ways in which culturally-derived biases can influence communication effectiveness.

II. References:

Purtilo, R.: Health Professional/Patient Interaction, 2nd Ed. Philadelphia: W.B. Saunders Co., 1978. Chapters 8, 9 and 10.

III. Learning Experiences:

1. Didactic/Discussions
   Lecture: Effective Communication Methods

2. Clinical Experiences
   Student Simulations

   a. Verbal communcations
   b. Barriers and facilitators to good listening

NFS 490 Module II - Health Professional/Patient Interaction

UNIT II: The "Therapeutic Helping Relationship"

TPO 2.2. Knows principles of communication in the therapeutic helping relationship and how to alter communication techniques, according to individual patient needs, to maximize effectiveness.

EO 2.2.1. Describe the losses associated with illness, injury and/or hospitalization.

EO 2.2.2. Define body image and self image and explain the effects of a loss of a former self-image on the patient's communications as well as his/her ability to recover and rehabilitate.

EO 2.2.3. Describe the characteristics of the therapeutic helping relationship and distinguish from helping as a social relationship.

EO 2.2.4. Understand the way in which the personal and professional qualitites of the dietitian are integrated to establish a meaningful helping relationship.

EO 2.2.5. Define/describe the 4 techniques employed in the helping relationship, including helpful and unhelpful behavior for each.

EO 2.2.6. Describe five diversionary tactics used by patients to block communcation, possible reasons these may occur, and various measures that may be taken by the dietitian to facilitate communication in these cases.

EO 2.2.7. Explain how silence can be a useful part of the helping interview and describe verbal and non-verbal techniques to encourage continued communication.

II. References:

1. Purtilo, R.: Health Professional/Patient Interaction. Chapters 3, 4, 5, 6, 11, 12 and 13.

2. American Hospital Association, Statement: A Patient's Bill of Rights. The American Hospital Association, 1975.

3. Wolf, S. and Goodell, H.: Behavioral Science in Clinical Medicine. Springfield: Charles C. Thomas, 1976.

4. Eriksen, K.: Communications Skills for the Human Services. Reston Publishing Co., Inc., 1979.

III. Learning Experiences:

1. Didactic/Discussions
   Lectures: (a) The Patient's Perspective
   (b) The "Therapeutic Helping Relationship"

NFS 490 Module III - Teaching Skills and Methods

Competency Statement 3

Plan, implement and evaluate lessons and/or presentations for a group using appropriate education principles, behavioral learner objectives, effective teaching methods and evaluation techniques.

TPO 3.1 Understand how a variety of teaching skills can be employed to maximize teaching effectiveness.

EO 3.1.1 Describe how the following teaching skills are used in education.

(a) illustrating with examples
(b) reinforcing subject matter
(c) reinforcing behavior
(d) questioning
(e) using silence
(f) recognizing and obtaining attending behavior
(g) Leading and maintaining stimulating discussions

EO 3.1.2 Define the following terms:

(a) establishing set
(b) pacing
(c) closure achievement
(d) symposium
(e) forum
(f) brainstorming
(g) tear sheet file
(h) instructional strategy
(i) learning experience

TPO 3.2 Plan, present and evaluate a short (5-15 minute) demonstration or lesson on a nutrition related topic.

EO 3.2.1. Outline and describe the five essentials in planning effective demonstrations.

EO 3.2.2. Write a behavioral objective for a given activity, that is a statement of an observable proficiency in which the criteria of acceptable learner performance are measureable and appropriate to a well-defined task, and the resources important to performing the task are specified.

EO 3.2.3. Know principles of effective communications before a group audience.

EO 3.2.4. To describe the two step process in providing learning experiences.

EO 3.2.5. List and describe the steps in the evaluation process.

EO 3.2.6. List the 3 characteristics of a good visual for communicating.

II. References:

1. Wittich, W.A. and Schuller, C.F.: Instructional Technology Its Nature and Use, 6th Edition. New York: Harper & Row, 1979.

2. Garvey, M.: Teaching Displays. Linnet Books, 1972.

3. Anderson, R.H.: Selecting and Developing Media for Instruction. New York: Van Nostrand Reinhold Co., 1976.

4. Herrick, K.L., Scott, L.W., Weaver, F.J., Foreyt, J.P. and Gotto, A.M.: Developing and Evaluating Audiovisual Media for Dietary Education.

5. Hassell, J. and Medved, E.: Group/audiovisual instruction for patients with diabetes. JADA 66:465, 1975.

6. Chamberlain, V. and Kelly, J.M.: Creative Home Economics Instruction, 2nd Ed., New York: Webster Div. - McGraw Hill, 1981.

7. Selected issues of The Journal of Nutrition Education.

III. Learning Experiences

1. Didactic/Discussion
   Lectures: Teaching Methods
   Visual Aid and Media Selection and Use

2. Clinical
   (a) Review one article from the Journal of Nutrition Education and present a 5 minute oral report on the major emphasis of the article.

   (b) Choose a nutrition topic and target audience and plan, present and evaluate a 5, 10, or 15 minute demonstration.

   (c) Choose a nutrition-related topic that can be adapted to 2 different audiences. Plan, implement and evaluate two 10-15 minute lessons using behavioral learner objectives, appropriate educational principles, teaching skills, and evaluation techniques.

The preceding assignments also represent Enabling Objectives for Terminal Performance Objective 3.2.

NFS 490 Module IV - The Nutritional Care Process

Competency Statement 4

With a selected patient, assess nutritional status according to all appropriate parameters. Apply principles of nutrition to formulate a Nutritional Care Plan that is appropriate for the optimum physiological, psychological, social, cultural and economic status of client.Conduct nutrition history interview, formulate appropriate nutritional care plan, implement, and evaluate.

TPO 4.1 Structure and implement an accurate and thorough dietary history interview utilizing a combination of diet history method and food frequency record.

TPO 4.2. Utilizing sound educational techniques, formulate the educational plan for the client/patient including specific goals or outcomes for client behavior and learning experiences that would facilitate the behavior change.

TPO 4.3. Apply communication skills and interviewing/counseling principles and techniques in client/patient interviewing/counseling situations for the provision of optimal nutritional care.

TPO 4.4. Utilizing principles of evaluation, determine the effectiveness of the dietary counseling/instructing on the client's/patient's success in achieving the recommended behavioral outcomes.

This learning module is subdivided into the following units:

I. Interviewing
II. Planning
III. Implementation
IV. Evaluation

Enabling objectives to achieve the above terminal performance objectives are listed separately under the appropriate unit.

NFS 490 Module IV - The Nutritional Care Process

UNIT I - The Interview

TPO 4.1. Structure and implement an accurate and thorough dietary history utilizing a combination of diet history method and food frequency record.

EO 4.1.1. Conduct the dietary history interview demonstrating knowledge and effective utilization of the techniques for successful communication and techniques for the therapeutic helping relationship.

EO 4.1.2. Complete diet history forms while conducting the interview to provide a thorough base of data and information for evaluative purposes.

EO 4.1.3. Define/describe the three types of listening responses and three types of sharing responses commonly employed by the dietitian in an interview situation. To be able to recognize when each type is being used given a sample interview. To be able to appropriately substitute these responses for less effective ones.

II. References:

1. Mason, M.: The Dynamics of Clinical Dietetics. Chapters 5 and 6.

2. Adams, C.H. and Fitz, P.A.: Simulation exercises for interview training in dietetics: A module on listening skills. JADA 74:50, 1979.

3. Sutnick, M.R. and Carroll, J.G.: Using patient simulators to teach clinical interviewing skills. JADA 78:614, 1981.

4. Gianni, G.: Interviewing Skills Appraisal Program: Nutrition Counseling - Manual for Checklist Users (revised version: Sayers, S.: Interviewing/Counseling Skills Appraisal) University of Illinois, Center for Educational Development, 1978.

5. Danish, S.J., Ginsberg, M.R., Terrell, A., Hammond, M.I., Adams, S.O.: The anatomy of a dietetic counseling interview. JADA 75:626, 1979.

6. Andrew, B.J.: Interviewing and counseling skills - Techniques for their evaluation. JADA 74:576, 1975.

III. Learning Experiences

1. Didactic/Discussions
   Lecture: The Process of Interviewing

2. Clinical Experiences

   (a) View and discuss Videocassette: Dietary Interview Appraisal Skills, University of Illinois

   (b) Role Playing: Obtaining diet histories in a variety of clinical situations and settings

   (c) Clinical Assignment: Using the checklist, Interviewing Skills Appraisal Checklist, tape record and evaluate in writing a complete diet history interview of a Logan Regional Hospital patient according to the criteria specified in the guidelines for the program.

NFS 490 Module IV - The Nutritional Care Process

UNIT II: Planning

TPO 4.2 Utilizing sound educational techniques, formulate the educational plan for the client/patient including specific goals or outcomes for client behavior and learning experiences that would facilitate the behavior change.

EO 4.2.1. Write a behavioral objective, for a given activity, that is a statement of an observable proficiency in which the criteria of acceptable learner performance are measurable and appropriate to a well-defined task, and the resources important to performing the task are specified.

EO 4.2.2. Describe, in writing, the responsibilities of the clinical dietitian in the planning phase of the nutritional care process.

EO 4.2.3. Explain the acronym, RHUMBA, as it relates to the attributes of quality objectives.

EO 4.2.4. Describe 4 benefits to the client/patient and dietitian in using objectives in the nutritional care process.

EO 4.2.5. List and define the 3 domains of learning. Classify each as either competence or motivation.

EO 4.2.6. Using the hierarchy of objectives adapted for nutritional care planning and given a list of specific objectives, classify each as recall, concept or principle learning.

EO 4.2.7. Within the affective domain for nutrition care planning, list the 5 levels of learning and describe the client/patient behavior for each level.

EO 4.2.8. For Bloom's original taxonomy of objectives in the cognitive domain, given the six levels, describe for each: the emphasis, objective and list 3 verbs appropriate to the level.

II. References:

1. Mason, M.: The Dynamics of Clinical Dietetics. pp. 163-173 and 216-238.

2. Gagne, R.M.: Principles of Instructional Design. New York: Holt Rinehart and Winston, Inc., 1974.

3. Gagne, R.M.: The Conditions of Learning, 2nd Edition. New York: Holt, Rinehart and Winston, Inc., 1970.

4. Barton, G.E.: Writing Competency Statements - An Interactive Instructional Program for Discriminating the Relevant Attributes of Cognitive and Psychomotor Learner Proficiencies. Provo, Utah: Brigham Young University Printing Service, 1972.

III. Learning Experiences
Didactic/Discussion
Lectures: Planning for Education
Planning Phase of Nutritional Care Process

Discussion: Writing Behavioral Objectives

NFS 490 Module IV - The Nutritional Care Process

UNIT III: Implementation (Counseling)

TPO 4.3 Apply communication skills and counseling principles and techniques in client/patient counseling situations for the provision of optimal nutritional care.

EO 4.3.1. Discuss the advantages of obtaining client involvement in the counseling process.

EO 4.3.2. Describe the 2-step process to providing learning experiences.

EO 4.3.3. Explain the differences in teaching and learning at the recall and concept level as compared with the principle level.

EO 4.3.4. List and briefly describe the stages of a typical nutrition counseling session.

EO 4.3.5. Describe factors which may influence a counseling session in a positive or negative way associated with the counselor, the client and the environment.

EO 4.3.6. Define a list of counseling technique terms and identify these techniques in a counseling situation.

EO 4.3.7. Discuss the "therapeutic alliance" between health professional and patient.

EO 4.3.8. Discuss the possible outcomes of the use of fear as a motivator.

EO 4.3.9. Describe the following strategies of behavioral therapy programs: self-instruction stimulus control and direct intervention.

EO 4.3.10. Define motivation and describe how it relates to human needs.

EO 4.3.11. Define/describe Maslow's hierarchy of human needs.

II. References:

1. Mason, M.: The Dynamics of Clinical Dietetics, pp. 239-249.

2. LaQuatra, I. and Danish, S.J.: Effect of a helping skills transfer program on dietitians' helping behavior. JADA 78:22, 1981.

3. Diet Therapy Section of the American Dietetic Association: Guidelines for diet counseling. JADA 66:471, 1975.

4. Zifferblatt, S.M. and Wilbur, C.S.: Dietary Counseling: Some realistic expectations and guidelines. JADA 70:591, 1977.

5. Danish, S.J.: Developing helping relationships in dietetic counseling. JADA 67:107, 1975.

6. Ferguson, J.: Dietitians as behavior-change agents. JADA 73:231, 1978.

7. Evans, R.I.: Social-psychologic perspective in motivating changes in eating behavior. JADA 72:378, 1978.

8. Biltz, P.A. and Derelian, D.V.: Changing dietitians' attitudes toward client counseling. JADA 73:239, 1978.

9. Glanz, K.: Strategies for nutrition counseling. JADA 74:431, 1979.

10. Wylie-Rosett, J.: Development of new education strategies for the person with diabetes. JADA 81:268, 1982

11. Mahoney, J.J. and Caggiula, A.W.: Applying behavioral methods to nutritional counseling. JADA 72:372, 1978.

12. McNabb Dow, R.: Simulations teach management and nutrition counseling skills. JADA 79:453, 1981.

III. Learning Experiences

Didactic/Discussions

1. Lectures: Nutrition Counseling
Understanding Human Motivation

2. Clinical Experience

Nutrition Counseling Workshop

(a) View Videocassette "The Nutrition Counseling Videotape" Nutrition unit of the Joslin Diabetes Center

(b) Discussion and follow-up activities

1) general discussion
2) identifying counseling skills
3) correcting counseling errors
4) factors which influence a counseling session

NFS 490 Module IV - The Nutritional Care Process

UNIV IV: Evaluation

TPO 4.4 Utilizing principles of evaluation, determine the effectiveness of the dietary counseling/instructing on the client's/patient's success in achieving the recommended behavioral outcomes.

EO 4.4.1. Define patient compliance in terms of behavioral and health outcomes.

EO 4.4.2. Discuss features of dietary regimens associated with non-compliance.

EO 4.4.3. Describe the responsibility of the dietitian in the process of evaluation in the nutritional care process.

EO 4.4.4. Differentiate between formative, summative and follow-up evaluation.

EO 4.4.5. List and describe the steps involved in the evaluation process.

II. References:

1. Mason, M.: The Dynamics of Clinical Dietetics, pp. 250-261.

2. Glanz, K.: Dietitians' effectiveness and patient compliance with dietary regimens. JADA 75:631, 1979.

3. Page, P., Verstraete, D.G., Robb, J.R. and Etzwiler, D.D.: Patient Recall of Self-Care Recommendations in Diabetes. Diabetes Care 4:96, 1981.

III. Learning Experiences

1. Didactic/Discussion

Lecture: The Process of Evaluation in Nutritional Care
The Process of Evaluation in Education

Appendix B

NFS 448 Community Nutrition Unit in Nutrition Education

NFS 448 - Community Nutrition

UNIT: Nutrition Education

OJBECTIVES:

The student will be able to:

1. Describe nutrition education efforts of the food industry.
2. Describe the influence of mass media on food habits.
3. Describe the process of nutrition education.
4. List three strategies for approaching nutrition education.
5. Identify major cultural differences in food consumption.

CONTENT OUTLINE:

Overview
Nutrition Education Efforts by Food Industry
Influence of Mass Media on Food Habits
Education Strategies
Federal Initiatives in Nutrition Education
Education to Combat Misinformation
Cultural Differences in Food Consumption and Approaches to Education.

REFERENCES:

1. Textbook: Caliendo, Chapters 12-14
2. Folder in NFS Library: Cultural Food Habits Articles

Didactic Content:

2 hours lecture

Clinical Content:

3 hours
1. Discussion of cultural food habit articles and cultural eating habits of students.
2. Obtain diet history, assess for basic 4 and make basic recommendations to an international student.

Evaluation Strategy:

1. Participation in class discussion.
2. International student food history assignment.
3. Reading assignment summaries.
4. Test (≥80% proficiency).

Appendix C

NFS 301 Perspectives of Dietetics

Module IV

NFS 301 - Perspectives of Dietetics

MODULE IV: NUTRITIONAL CARE--PLANNING, IMPLEMENTATION, & EVALUATION

OBJECTIVES: The student will be able to:	LEARNING EXPERIENCES:
I. PLANNING	
List three domains of learning, and five levels of Maslow's heirachy of need.	Lecture/discussion on learning theory and individual client variables.
Write a behavioral objective correctly (note - the key to instructional planning is the statement of objectives).	Read M. Mason: Dynamics of Clinical Dietetics, pp. 177-220.
Apply principles of nutrition to formulate a Nutritional Care Plan that is appropriate for the optimum physiological, psychological, social, cultural and economic status of the client.	Lecture/discussion on the Nutritional Care Plan, and "class practice" writing behavioral objectives and developing the NCP.
	Submit appropriate written Nutritional Care Plan for selected hospital patients - 4 required.
II. IMPLEMENTATION (COUNSELING)	
(note-counseling is a two part process, the first part being the establishment of rapport, empathy, and trust with the client)	Lecture/discussion: The therapeutic-helping, client-centered relationship; the hospitalized patient.
Define the characteristics of the therapeutic, helping relationship.	READ: The Patient's Bill Rights (American Hospital Assoc.)
Define/describe the client-centered approach to nutritional care	
Define/describe the factors that facilitate communication: physical, verbal, and non-verbal modes.	READ: M. Mason: Dynamics of Clinical Dietetics, pp. 221-252.

OBJECTIVES: The student will be able to:

Describe characteristics of effective nutritional counseling.

Apply communication skills and interviewing/counseling principles and techniques in client/patient inteviewing/counseling situations for the provision of optimal nutritional care.

III. EVALUATION

With a selected patient, assess nutritional status (read chart and select menu), conduct nutrition

LEARNING EXPERIENCES (Counseling) con't

Purtilo: Health Professional/Patient Interaction Chapt. 1-7, and 11-13

Purtilo, Chapters 8-10

Danish, S.: Developing helping relationships in dietetic counseling. JADA 67:107-110, 1975.

Ling, P.: Guidelines for diet counseling. JADA 66:571-575, 1975.

Zifferblatt, S. and C. Wilbur: Dietary counseling: Some realistic guidelines. JADA 70:591-595, 1977.

Lecture/discussion: Principles techniques for effective communication

Film: Five Problems in Communications

View: Video tape on dietary counseling (L.A. City College)

Lecture/discussion on effective counseling techniques.

Read: Interviewing/counseling skills appraisal manual for users. (Univ. of Illinois)

Tape record client interview in hospital, and write a self-evaluation.

READ:
M. Mason: Dynamics of Clinical Dietetics, pp. 253-279.

OBJECTIVES: The student will be able to:

LEARNING EXPERIENCES:

history interview, formulate appropriate nutritional care plan, implement, and evaluate.

Appendix D

Course Assignments

Course - Education in Clinical Dietetics
Assignment - Interview Self Evaluation

OBJECTIVE: Using the Interviewing Skills Appraisal Checklist, evaluate in writing a complete diet history interview of a Logan Regional Hospital patient.

1. Obtain a cassette recorder and a cassette tape.

2. Choose a patient on whom you will be taking a diet history. Obtain the permission of the patient to tape record your interview. Explain to the patient what is involved in the interview.

3. Tape record the entire diet history.

4. Utilizing the Interviewing Skills Appraisal Checklist and guidelines, evaluate your interview for the following: initiation of interview, maintenance of interview - communication, maintenance of interview - control and termination of interview.

5. In order to evaluate your interviewing skills accurately, you will need to listen to the tape at least twice.

6. In addition to completing the checklist, fill out page 5 indicating circumstances which were detrimental to the interview, but not caused by the student. At the bottom of this page, comment on strengths and areas in which you need improvement.

Course - Education in Clinical Dietetics
Assignment - Journal Article Review

OBJECTIVE: To review one article from a recent (within 5 years) article from the Journal of Nutrition Education and present a 5-7 minute oral report highlighting the major emphasis of the article.

The following components will be included in the oral report:

1. Title of article, author, author's affiliation.

2. The objective(s) of the activities or research in the article.

3. Description of the approach to nutrition education presented in the article.

4. Summary of the results or findings reported in the article.

5. Your own evaluation/interpretation of the implications of the article. For example, could the approach be modified and used in other situations.

Course - Education in Clinical Dietetics
Assignment - Demonstration

OBJECTIVE: Utilizing the guidelines for preparing effective demonstrations, plan, implement and evaluate a 5, 10 or 15 minute nutrition education demonstration. Examples include: how to fill out a dietary record form, how to locate and evaluate sodium content on food labels.

1. Choose a nutrition education demonstration topic and indicate title on sign-up sheet. Indicate whether your demonstration will be 5, 10 or 15 minutes in length.

2. Hand in a typed "write up" of your demonstration to include the following:
   (a) Title of demonstration

   (b) Target audience and size (i.e. consumers, weight reduction class)

   (c) Objective(s) of the demonstration (stated in behavioral terms for the audience)

   (d) A description of all materials needed, equipment, room specifications, hand-outs, charts, etc. and how these will be set up.

   (e) A step-by-step outline or guide to your demonstration.

   (f) Your self evaluation of the demonstration. Answer the question: What would I do differently if I repeated this demonstration, and why?

3. The demonstration will be evaluated based on the following criteria:
   (a) How well was audience able to follow the steps of the demonstration. Was it well-organized, paced appropriately and logically sequenced.

   (b) Evidence of thorough preparation and rehearsal. Smooth presentation, few hesitations, all equipment properly used, easily visible from entire room.

   (c) Success of the demonstration in holding the interest of audience. Audience involved through participation when possible, subject relevant and useful for audience.

   (d) Clear and correctly written objectives, appropriate for audience and realistic for time allowed.

   (e) Visuals and materials - well used, legible, neat, easy to understand, enhance and support topic objectives.

Course - Education in Clinical Dietetics
Assignment - Public Education Display

OBJECTIVE: To plan an effective nutrition education display for public viewing in a mall setting depicting some aspect of the U.S. Dietary Guidelines.

1. Using the dietary guidelines as a subject for your display, plan the display for a mall setting. You don't have to produce the display, but you will need to make sketches of the display including colors, sizes of display, equipment placement, etc.

2. Several books on teaching materials will be on reserve in the nutrition library. Feel free to use these as references for effective display principles. Please do not take these from the library.

3. Include the following specific information in your plan:

   (a) The title and objective(s) of the display.

   (b) A list of concepts that will be presented in the display.

   (c) Diagram(s) of the actual display including a single diagram of the overall layout with dimensions, and diagrams of the component parts of the display (i.e. arrangement of materials on tables or boards).

   (d) A description of techniques that will be used to gain the attention of those attending.

   (e) A list of equipment, props, supplies, etc. that will be needed for the display.

   (f) A description of the type of participation or involvement needed for the person(s) manning the display.

   (g) Copies of handouts to be distributed to public.

Course - Education in Clinical Dietetics
Assignment - Final Presentation

OBJECTIVE: Choose a nutrition topic that can be adapted to 2 different audiences. Plan, implement and evaluate two 10-15 minute lessons using behavioral objectives, appropriate educational principles, teaching skills, and evaluation techniques.

1. The writeup you will hand in will include the following:

   (a) Two separate lesson plans that each include:
   - Title of lesson
   - Description of audience
   - Behavioral objective(s)
   - Outline of concepts to be covered
   - List of learning experiences
   - Equipment, objects, visual aids needed

   (b) Evaluation-Self
   Evaluate your performance as an instructor. What would you change to make the lessons more effective?

   (c) Evaluation-Learner
   Hand in an evaluation tool which you could use to measure learner achievement of your objectives

   (d) List of references consulted.

Appendix E

Education Needs Assessment Survey

____This number for
coding purposes only

1. Are you currently employed as a dietitian?
   Yes____
   No ____ If no, please complete the questionnaire using your most recent employment (date) _____

2. Please indicate your present educational status.
   R.D._____ B.S._____ M.S._____ Ph.D._____ Other_____
   If you are currently working toward a degree, please indicate the degree and expected completion date: _____

3. Check your present organizational affiliation.

   ____ Hospital
   ____ University, College
   ____ Extended Care Facility
   ____ Private Practice
   ____ Community Agency
   ____ Business
   ____ Other, Specify _____

4. Do you work full-time? Yes ____ No ____
   Number of hours worked per week _____

5. Estimate the amount of time in months that you have spent in each of the following capacities since your graduation.

Kinds of experience	Time(months)
1. General Clinical Practice	_____
2. Specialized Clinical Practice (i.e., Pediatrics, renal) Specify _____	_____
3. Research	_____
4. Consultant for health care facility	_____
5. Private practice	_____
6. Community dietetics	_____
7. Administrative dietetics	_____
8. Education of dietetics practitioners	_____
9. Medical, dental and nursing education	_____
10. Other (specify) _____	_____

6. Estimate the number of hours per week that you spend in the following activities. Your total may not equal the total hours you work because of other activities.

	Number of Hours
1. Interviewing clients/patients	_____
2. Counseling/instructing clients/patients	_____
3. Writing in medical records	_____
4. Teaching Classes/Giving Presentations	
(a) Group classes for patients/clients	_____
(b) Professionals (M.D.'s, nurses, etc.)	_____
(c) Non-professionals (Food service employees, church and community groups)	_____
5. Research	_____
6. Administrative activities (meetings, employee counseling, hiring employees, etc.)	_____
7. Nutrition Education Process	
(a) Planning classes/presentations (i.e., writing objectives, lectures, lesson plans, etc.)	_____
(b) Scheduling (making reservations, notifying participants, etc.)	_____
(c) Preparing visual aids	_____
(d) Developing or selecting patient education materials	_____
(e) Planning, preparing or selecting public education materials (including displays)	_____
(f) Evaluating (i.e., testing, evaluating courses, lectures; evaluation methods for assessing patient acceptance)	_____
8. Obtaining and evaluating nutritional assessment data	_____
9. Other blocks of time equal to three or more hours per week Specify _____	_____

7. For the following activities please rank the training/preparation provided by the USU CUP in each area. Use the following number system to rank.
   1 = very valuable
   2 = somewhat valuable
   3 = limited, needs some improvement
   4 = weak or non-existent

   (1) Interviewing clients/patients _____

   (2) Counseling/instructing clients or patients _____

   (3) Writing in medical records _____

   (4) Teaching Classes/Giving Presentations:
   (a) Group classes for clients/patients _____
   (b) Professionals (M.D.'s, nurses, etc.) _____
   (c) Non-professionals (i.e., food service employees, church and community groups) _____

   (5) Planning classes/presentations (i.e., writing objectives, lectures, lesson plans, etc.) _____

   (6) Preparing visual aids/media _____

   (7) Developing patient/client education materials _____

   (8) Planning and preparing public education materials and information for effectiveness _____

   (9) Selecting and evaluating nutrition education materials and information for effectiveness _____

   (10) Evaluation of education (i.e., testing; evaluating courses, lectures; evaluation methods assessing patient acceptance) _____

   (11) Obtaining and evaluating nutritional assessment data _____

   (12) Use of motivational techniques in achieving behavioral change _____

8. Please evaluate the training/preparation provided during the JUNIOR year of the USU CUP in preparing you to function in the following areas in Salt Lake City during your Senior year.

   Choose the statement below which best describes how comfortable you felt in Salt Lake City with respect to the listed responsibilities.

   1 = I was very comfortable in SLC: my junior year training was very thorough

   2 = I was somewhat comfortable in SLC; my junior year training provided basic education in this area

   3 = I needed additional training to function optimally in SLC; the junior year training was inadequate

   4 = I had no training in this area prior to SLC

   5 = I had no opportunity to function in this area in SLC

(1) Interviewing clients/patients _____

(2) Counseling/instructing clients/patients _____

(3) Writing in medical records _____

(4) Teaching Classes/Giving Presentations:
   (a) Group classes for clients/patients _____
   (b) Professionals (M.D.'s, nurses, etc.) _____
   (c) Non-professionals (i.e., food service employees, community groups) _____

(5) Planning classes/presentations (i.e., writing objectives, lectures, lesson plans, etc.) _____

(6) Preparing visual aids/media _____

(7) Developing patient/client education materials _____

(8) Planning and preparing public education materials (including displays) _____

(9) Selecting and evaluating nutrition education materials and information for effectiveness _____

(10) Evaluation of education (i.e., testing; evaluating lectures; evaluating patient acceptance) _____

(11) Obtaining and evaluating nutritional assessment data _____

(12) Use of motivational techniques in achieving behavioral change _____

9. What component of the USU CUP do you feel was the strongest in preparing you to function as a nutrition educator?

10. In the area of nutrition education, what additional educational experiences would have been useful in preparing you for the role of nutrition educator?

11. Estimate how often you conduct clases or give presentations to the following audiences. Specify whether your answer is per day, week, year, etc.

(a)	one person (individual instruction)	_____times per_____
(b)	2-5 people	_____times per_____
(c)	5-15 people	_____times per_____
(d)	15-30 people	_____times per_____
(e)	30-100 people	_____times per_____
(f)	Over 100 people	_____times per_____

THANK YOU FOR YOUR PARTICIPATION!

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322

COLLEGE OF AGRICULTURE

COLLEGE OF FAMILY LIFE

DEPARTMENT OF
NUTRITION AND
FOOD SCIENCES
UMC 87

March 24, 1983

Dear

Several areas of training within the Utah State University Coordinated Undergraduate Program are currently being reviewed. Given your position as a former USU Medical Dietetics student and a current dietetics practitioner, your input into the review process is highly valued. The attached evaluation form has been developed to allow you to consider your needs as a professional and the preparation you've had to meet them. It will take you about 30 minutes to complete.

As in the past, your suggestions will be carefully considered in the revision of currently existing aspects of the program as well as in the formulation of new components. Your responses will be treated confidentially and reported only in group data fashion.

We would appreciate it if the forms could be returned by April 6, 1983.

Thank you for your participation.

Sincerely,

Cynthia Obermiller

Cynthia Obermiller, R.D.
Clinical Instructor

Bonita W. Wyse

Bonita W. Wyse, PH.D., R.D.
Professor of Nutrition

Enclosure

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322

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FOOD SCIENCES
UMC 87

March 24, 1983

Dear

Your participation in the pilot study in September, 1982 was greatly appreciated. Your responses provided us with valuable information as to the needs of clinicians, in particular, USU Medical Dietetics graduates.

In order to complete the evaluation of several components of the USU Coordinated Undergraduate Program, the questionnaire you completed has been revised and is now being sent to all past graduates.

We are asking that you take about 30 minutes to complete the enclosed form. Your responses will be treated confidentially and reported only in group data fashion. Please return the forms by April 6, 1983.

Thank you for your participation.

Sincerely,

Cindy Obermiller

Cindy Obermiller, R.D.
Clinical Instructor

Bonita W. Wyse

Bonita W. Wyse, Ph.D., R.D.
Professor of Nutrition

Enclosure

Appendix F

Student Presentation Evaluation Form

STUDENT PRESENTATION EVALUATION FORM

COURSE_____ DATE_____ STUDENT_____

ASSIGNMENT TITLE/TOPIC_____ POINTS _____

The student's objective(s) for this assignment was to _____

_____

Please rate the student's performance in meeting the above objective(s) by rating the presentation according to the following criteria:

1. OBJECTIVES (a) Assignment Objective(s)	Topic coverage irrelevant to stated objectives	Topic coverage lacked in one or more aspect of assigned objectives	Topic coverage generally met objectives	Topic coverage totally met assignment objectives as stated above

COMMENTS:

(b) Audience/ learner Objectives	Objectives not stated or inappropriate to learning situation; did not accurately assess audience needs and interests	Objectives stated but not completely; or somewhat inappropriate to audience needs and interests	Stated in proper form prior to presentation; appropriate; when needed, stated behaviorally; considered audience needs and interests	Clearly stated in proper form prior to presentation; totally appropriate, stated behaviorally, when needed; totally appropriate and relevant to audience needs.

COMMENTS:

2. ORGANIZATION Presentation is easy to follow	Presentation is choppy; very difficult to follow; disorganized	Portions not locically organized; some difficulty following	Smooth presentation; good transition between subtopics	Creative introduction; very smooth presentation; good transitions between subtopics; logical conclusion
COMMENTS:				
3. PREPARATION (a) Sufficient rehearsal	Refers to notes constantly or reads presentation; hesitates frequently	Occasional hesitation; evidence of limited rehearsal	Rehearsed once or twice; some referral to notes.	Evidence of very thorough rehearsal; no hesitations; minimal referral to notes.
COMMENTS:				
(b) Thoroughness of coverage	All aspects of topic covered inadequately; some areas not covered	Several important aspects lacked thoroughness	Most areas covered in appropriate depth for audience	All aspects thoroughly covered; those areas covered indepth were appropriate to audiences needs
COMMENTS:				
(c) Thorough subject knowledge	Evidence of difficulty understanding topic; errors in information and/or interpretation	Some difficulty in explaining the more technical aspects of subject	Presenter is familiar with all aspects of topic	Displays considerable knowledge of topic; speaks with extreme confidence
COMMENTS:				
(d) Information reflects current research	No referral to current research; presentation lacks scientific support	Minimal use of current research; interpretation of research not totally appropriate	Adequate research to support most of presentation	Very thorough research presented; current research cited when applicable; appropriately used
COMMENTS:				

(e) Responds to questions	Is unable to answer general questions correctly	Answers some questions correctly; lacks thoroughness	Answers most questions correctly	Answers almost all questions thoroughly and correctly; volunteers to obtain additional information
COMMENTS:				
4. STYLE (a) Poise, control	Lacks poise and control; loses composure	Has difficulty handling some problems, displays poise and control through portions of presentations	Maintains good control throughout	Shows extreme poise and composure through presentation; handles all problems and distractions well.
COMMENTS:				
(b) Enthusiasm; stimulates interest	Appears disinterested in topic	Stimulates limited interest; lacks visible enthusiasm	Shows interest in topic; conveys some enthusiasm	Shows personal committment & enthusiasm; inspiring; tries to convey innovative perspective
COMMENTS:				
(c) Eye contact; rapport	Does not maintain eye contact; looks at notes or objects in room	Eye contact with some of audience; infrequent	Eye contact with each person in audience at least once	Good frequent eye contact with each person in audience; comfortable interaction with audience
COMMENTS:				
(d) Voice clarity articulation	Difficulty pronouncing at least several words; rate too rapid or slow or unclear; slurred speech	Voice mostly clear, some problems with pronouncing/ enunciating; at times too rapid or slow	Clear, understandable speech, little or no difficulty; pace appropriate	Very clear speech; good enunciation with no mispronounciations, pace perfect for audience

COMMENTS:				
(e) Volume, tone of voice	Volume either inappropriately loud or too soft; no variation in tone, monotone	Portions of presentation too loud or soft, limited tone variety	Volume good through most of program, varied tone	Voice consistent and easily heard at any location in room; interesting variety of tone
COMMENTS:				
5. VISUAL AIDS, MEDIA (a) Appropriateness	Minimal or no use of media or media used is inappropriate; not effective	Some media is used, however not totally effective and/or appropriate for audience	Media is used which is mostly appropriate to audience and topic	Use of media strengthens and enhances objectives; appropriate to audience; facilitates learning
COMMENTS:				
(b) Construction and use	Not legible and/or visible from entire audience; no advanced preparation	Aids lack neatness; mostly legible, some problem with equipment use	Neat, legible visual aids; proper use of equipment	Very creative, neat & legible; clearly visible from entire room; set up in advance, timing of visual aids effective; comfortable w/equipment
COMMENTS:				
6. Use of time	Presentation is completed using considerably more or less than allotted time	Presentation basically within time limit; but time not used well (too much or too little spent on portions)	Presentation completed within allotted time	Presentation fits very well within established time constraints, very appropriate division of time among subtopics.
COMMENTS:				

Additional Comments (state criteria number & letter):

Presentation Grade _____/_____
Write-up Grade _____/_____
(if applicable)
Overall Grade _____/_____